# Degrees of temporal remoteness in Pano: Contribution to the cross-linguistic study of tense[1]

**Pilar Valenzuela**
Chapman University, USA
https://orcid.org/**0000-0001-6035-962X**


**Sanderson Castro Soares de Oliveira**
Universidade Federal do Amazonas, Brasil
https://orcid.org/**0000-0003-4260-2934**

*Le temps physique du monde est un continu uniforme, infini, linéaire, segmentable à volonté. Il a pour corrélat dans l'homme une durée infiniment variable que chaque individu mesure au gré de ses émotions et au rythme de sa vie intérieure.*
(Benveniste, 1974)[2]

**ABSTRACT**: Beyond simply indicating future or past tense, the languages of the Pano family grammatically distinguish various degrees of temporal distance relative to a reference point, typically the moment of utterance; i.e., they possess what has been called 'metrical tense' (Chung & Timberlake 1985; Frawley 1992), 'degrees of remoteness' (Comrie 1985; Dahl 1985; Bybee et al. 1994; Botne 2012), or 'graded tense' (Cable 2013). This article offers a comparative analysis of the rich graded tense systems found in Pano, concentrating on morphologically expressed categories. In so doing, it seeks to expand our typological knowledge of languages exhibiting this feature, particularly in regards the internal organization of the systems, interactions between the graded tense markers and other grammatical categories (aspect, modality, evidentiality, negation, and number), and the probable sources of the graded tense markers. Despite being one of the largest genetic clusters with elaborate graded tense systems in the world, Pano languages have not been given (much) attention in crosslinguistic treatments of this feature.

**KEYWORDS**: Pano/Panoan languages; Tense morphology; Graded/Metrical tense; Interactions of tense with TAME, negation and plurality

**RESUMO**: Além de simplesmente indicar o futuro ou o passado, as línguas da família Pano distinguem gramaticalmente vários graus de distância temporal em relação a um ponto de referência, tipicamente o momento do enunciado; isto é, elas possuem o que tem sido chamado de 'tempo métrico' (Chung & Timberlake 1985; Frawley 1992), 'graus de distanciamento temporal' (Comrie 1985; Dahl 1985; Bybee et al. 1994; Botne 2012), ou 'gradação temporal' (Cabo 2013). Este artigo oferece uma análise comparativa dos ricos sistemas de gradação temporal encontrados em Pano, concentrando-se em categorias expressas morfologicamente. Com isso, busca-se expandir nosso conhecimento tipológico das línguas que apresentam essa característica, principalmente no que diz respeito à organização interna dos sistemas, às interações entre os marcadores de gradações temporais e outras categorias gramaticais (aspecto, modalidade, evidencialidade, negação e número), e as prováveis fontes dos marcadores de gradação temporal. Apesar de ser um dos maiores agrupamentos genéticos com elaborados sistemas de gradação temporal, as línguas Pano não têm recebido (muita) atenção nos tratamentos interlinguísticos desse recurso.

**PALAVRAS CHAVE**: Línguas pano; Morfologia temporal; Tempo métrico; Interações do tempo com TAME, negação e pluralidade

---

[1] Previous versions of this paper were presented at the following events: *Workshop sobre tempo, aspecto e modalidade em línguas indígenas sul-americanas* (LALLI/Universidade de Brasília), *Time and Language Symposium* (Linguistic Association of Finland, Turku) and *International Conference on Amazonian Languages - Amazonicas 7* (Baños, Ecuador). We thank the participants in those events for helpful comments and suggestions. All remaining shortcomings are our sole responsibility.

[2] "The physical time of the world is a uniform, infinite, linear continuum, segmentable at will. It has as its correlate in man an infinitely variable duration that each individual measures according to his emotions and the rhythm of his inner life."

## 1. Introduction

### 1.1 Purpose of the study

Pano is a medium-sized Western Amazonian linguistic family comprising more than thirty languages from Peru, Brazil, and Bolivia. Among the typologically salient features exhibited by these languages is the elaborate ways in which they structure time. In reporting events/states, Pano languages not only code future or past relations but further specify how far within the future or past these events/states are located with respect to a deictic temporal center, typically the moment of utterance. Languages having this capacity to grammatically distinguish degrees of temporal distance are said to display 'metrical tense' (Chung & Timberlake 1985; Frawley 1992); 'degrees of remoteness' (Comrie 1985; Dahl 1985; Bybee et al. 1994; Botne 2012), or 'graded tense' (Cable 2013).[3] The present study offers the first account of the Pano graded tense systems from a comparative perspective.[4] Although this feature is attested in approximately 25% of the world's languages (Dahl 2008; Botne 2012: 536), those exhibiting four or more degrees of remoteness seem to be unusual (Comrie 1985: 87; Frawley 1992: 363; Botne 2012: 555). For instance, of the 222 languages in Dahl & Velupillai's (2011) typological survey of past tense, only two have such prolific systems, Chakobo and Yagua; both are spoken in Western Amazonia and the former belongs to the Pano family. Bringing the Pano graded tense systems into the discussion is particularly relevant, considering that this family is one of the largest genetic units displaying highly elaborate systems of remoteness distinctions in the world, outside the Niger-Congo languages. Despite this, Pano languages are largely absent from older and recent treatments of this topic.[5] Botne (2012: 536) observes that languages with remoteness distinctions appear to be concentrated in three general areas: the Niger-Congo languages of Africa, the Trans-New Guinea languages of Papua New Guinea, and the indigenous languages of the Americas.

The Pano graded tense systems, and systems with remoteness distinctions more generally, are also often overlooked in surveys of South American or Amazonian languages. For instance, in discussing the typologically noteworthy features of South Amerindian languages Campbell & Grondona (2012: 285-291) deal with nominal tense and with the lack of tense and aspect verbal morphology, while graded tense systems are not mentioned. As for Amazonian languages, Dixon & Aikhenvald (1999: 9-10) state that the expression of verbal categories (including tense) by optional suffixes constitutes an areal feature. This implies that in Amazonian languages tense is commonly left unexpressed and temporal information must be inferred from the discourse context or is indicated by adverbs, aspectual distinctions, etc. In contrast, continue the authors, Andean languages feature obligatory tense and aspect suffixes.[6] Nonetheless, it has been shown that various South Amerindian languages located in the western part of the continent do have graded tense systems (Mueller 2013).[7]

---

[3] In the present discussion the terms 'degrees of temporal remoteness,' 'temporal remoteness distinctions' or 'graded tense' are used interchangeably.

[4] Although we provide some diachronic observations, particularly in section 6, our current knowledge of the Pano family does not allow us to offer a historical-comparative study *stricto sensu*.

[5] Comrie (1985) and Botne (2012) refer to remoteness distinctions in Araona, which belongs to the small, genetically related Takana family, but do not mention any Pano language.

[6] For example, in Southern Conchucos Quechua tense and person are obligatory categories. The language features the following overtly marked tense morphemes (periphrastic and zero forms are excluded): 'recent pasts' *-r(q)u* and *-sh((q)a)*, 'past' *-r(q)a*, 'narrative past' *-na:*, 'habitual past' *-q*. In addition, there are portmanteau suffixes like *-nqa* 'future, 3rd person subject,' *-sh((q)a)* 'recent past, 3rd person subject,' and *-shayki* 'future, 1st person subject and 3rd person object' (Hintz 2007: 23-46).

[7] An exception to this generalization is found in the languages of the Carib family, which feature remoteness distinctions and are also spoken in Eastern Amazonia (Derbyshire 1999: 23-24, 37-40).

## 1.2 Characterizing remoteness distinctions

Tense systems displaying degrees of remoteness are generally asymmetrical, with more distinctions in the past than the future.[8] This is compatible with the fact that, differently from the past, the future refers to an event that has not yet taken place and thus can only be anticipated or projected. The future is often associated to modal categories such as volitionality, intention, prediction, and uncertainty (Frawley 1992: 363; Timberlake 2007: 307; Dahl 1985; see also section 5.2). The various time intervals of graded tense systems show variable levels of specificity. Generalizing, the further an interval lies from the present, the less precise its cut-off point, and the larger the temporal space it covers (Frawley 1992: 338).[9]

The basic meaning of tense markers is to locate events in time "relative to a reference point which is directly or at one or more removes from the 'now' of the speaker" (Fleischman 1989: 1). Most commonly, tense markers convey additional values associated to aspect, modality, and/or evidentiality. Comrie (1985: 18) distinguishes between basic and secondary meanings of tense markers. For example, the basic function of the English auxiliary *will* is to indicate future tense. However, *will* may acquire a modal meaning in certain contexts, as in *Will you please be quiet?* Similarly, some of the tense morphemes analyzed in this article have additional aspectual, modal, and/or evidentiality values (see sections 5 and 6). Comrie (1985: 23) also claims that the characterization of a tense category is to be understood in terms of prototypes, rather than necessary and sufficient conditions. To illustrate this, the author resorts (among other instances) to two tense categories in the Bamileke-Dschang language, P4 and P5, whose respective prototypical meanings are 'the day before yesterday' and 'a year or more ago.' This leaves a gap of almost one year if the markers are interpreted in terms of necessary and sufficient conditions. However, Comrie clarifies that the intermediate time lapse may be coded by either P4 or P5 depending on "the subjective remoteness that the speaker wants to assign to the situation referred to." (A similar explanation is given in Faust & Loos (2002) with respect to Yaminawa, see section 4).

In discussing degrees of remoteness Botne (2012) distinguishes three ideal types of languages. The first type structures time, primarily, according to the concept of a natural daily cycle. The second type, which seems to be particularly common in Amerindian languages, is based on human experience and "may reflect restrictions of human memory, life span, or cultural elements such as myths." A third type of languages is dependent on epistemic values and has to do with whether "the speaker highlights the distance between some aspect of the actual world, i.e., the present and a world denoted in the proposition." This implies the speaker's level of confidence that the event has happened or will happen (p. 546). Languages may exhibit combinations of these ideal types.

This article deals with morphologically expressed graded tense categories in the Pano family, while periphrastic forms have been excluded. The latter represent more recent grammaticalization processes, some of which are commonly attested crosslinguistically, and merit a separate treatment.[10] In addition, morphological forms are better suited to carry out a comparison of graded tense in Pano. This work is necessarily of a preliminary nature given

---

[8] It is also the case that the future has been less studied than the past.

[9] In analyzing graded tense in Gĩkũyũ (Bantu), Cable (2013) adopts a theoretical framework whereby time intervals are understood in terms of overlap. For example, if the authors of the present article began writing it six years ago but only concluded it yesterday, in Gĩkũyũ the 'near past' marker (rather than the 'remote past') would be selected to express *We wrote the paper,* given that the whole process overlaps the day before the utterance time.

[10] For instance, some Pano languages possess a periphrastic construction that involves the motion verb 'go' and codes future tense (an example is provided in 3.3.2.1). These seem to be independent developments that resort to a crosslinguistically very common strategy (cf. Fleischman 1982; Frawley 1992: 356, 371; Bybee, Perkins & Pagliuca 1994: 252-3; Hopper & Traugott 1993: 1; Heine & Kuteva 2002: 161-3; among others).

that, on the one hand, better descriptions of the tense systems in the languages considered are required and, on the other hand, the investigation should be expanded to include more languages and further explore categories closely linked to tense, especially aspect and modality.

The remainder of this article is organized in the following way. Section 2 introduces the Pano linguistic family, focusing on the main subclassification proposals and the languages selected in the present study. Section 3 describes the graded tense systems of each of these languages concentrating on morphologically marked categories. Remarks on the tense distinctions identified in the Pano systems are synthesized in section 4. Section 5 examines the interactions between the graded tense markers and other grammatical categories; namely, aspect, modality, evidentiality, plural number, and negation. Section 6 addresses the probable diachronic sources of the morphemes treated in section 3. Lastly, closing remarks are provided in section 7.

## 2. The Pano family and the languages in the study

Pano is a South American linguistic family comprising approximately thirty-three (extant and extinct) languages from Western Amazonia and the transitional area where this region meets the eastern slopes of the Andes. In terms of political borders, Pano languages are found in eastern Peru (Ucayali, Loreto, Huánuco, Madre de Dios), western Brazil (Acre, Amazonas, Rondônia), and northern Bolivia (Beni, Pando). Using the Automated Similarity Judgment Program (ASJP) it is estimated that Proto-Pano might have first split *ca.* 1,853 years ago (Holman et al. 2011). There is almost a consensus that Pano is genetically related to Takana, a small family of languages from northern Bolivia and southeastern Peru (Loos 1973, 2005; Kaufman 1990: 34, 45; Adelaar with Muysken 2004: 418; Campbell 1997, 2012; Campbell & Grondona 2012: 67; Jolkesky 2016; Valenzuela & Zariquiey 2015; Valenzuela & Guillaume 2017; Zariquiey & Valenzuela, forthcoming).

**Fig. 1**. Approximate location of extant Pano languages[11]
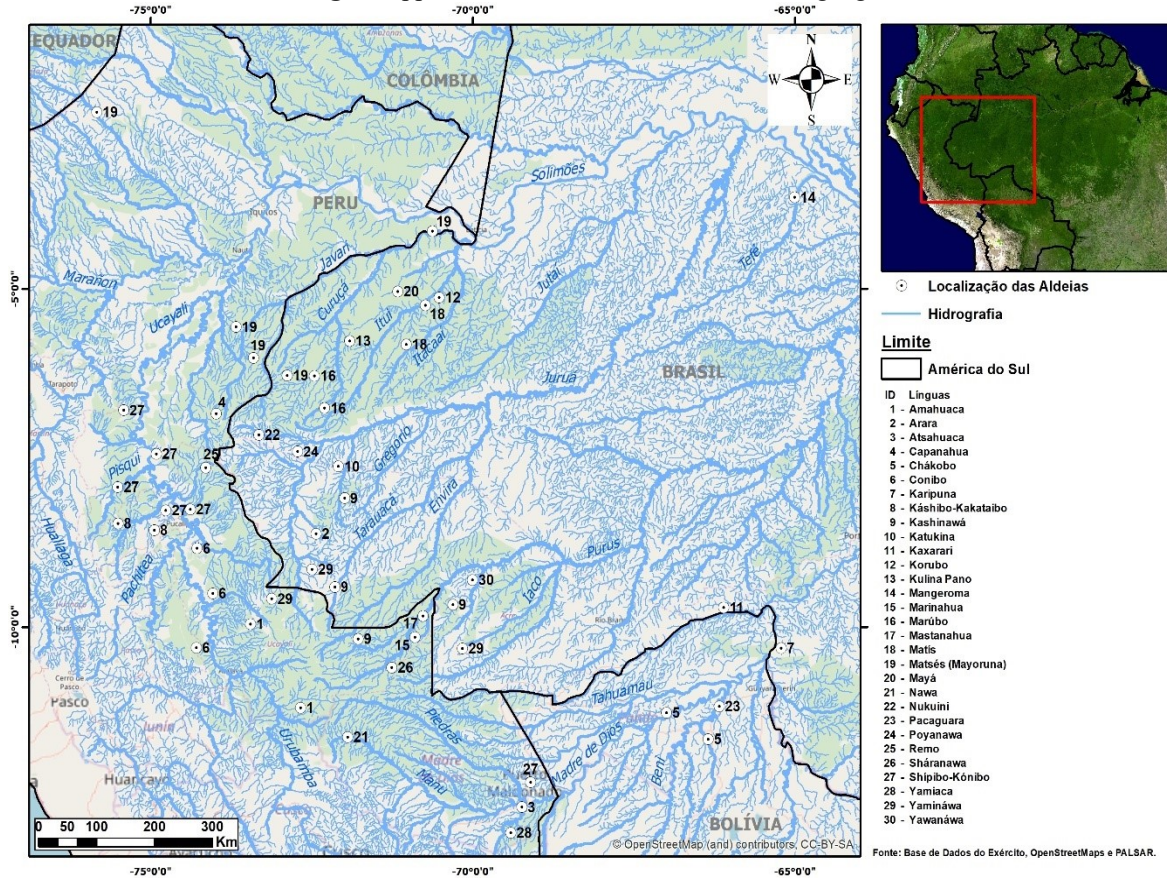


Pano languages display a significant degree of structural homogeneity (Loos 1999; d'Ans 1963). Below, we provide a list of relevant grammatical traits shared by (most of) the languages (Valenzuela & Guillaume 2017: 30).[12]

(a)  AOV/SV basic constituent order;
(b)  dominantly agglutinative morphology with little fusion,[13] some polysynthetic tendency in the verb;
(c)  strict distinction between intransitive and transitive verbs (but cf. Amahuaca; Valenzuela, Zariquiey & Angulo, in progress);
(d)  almost exclusive use of suffixes, enclitics and postpositions;
(e)  a set of body-part prefixes (or its vestiges) that combine with verbs, nouns, and adjectives, and play an oblique, mainly locative function;
(f)  absence of (well-developed) systems of (cognate) coreferential pronominal markers on the main verb or auxiliary (with the probable exception of -ş that codes 3rd person subject in Matses, Matis, Kashibo-Kakataibo, and Kapanawa);
(g)  verb minimally consisting of a stem and a time-aspect-modality marker;
(h)  ergative-absolutive case-marking with different types of splits, instantiated through enclitics that attach to the last word of the NP;

---

[11] Map 1 and Map 2 were made specifically for the purposes of the present work.
[12] Several of the traits, including graded tense, are also attested in Takana (Valenzuela & Guillaume 2017: 30-32).
[13] However, according to Fleck (2003), Matses inflectional morphology is fusional (p. 393). On the other hand, Amahuaca exhibits a more analytical tendency.

(i)   syncretism or polyfunctionality involving the ergative, genitive, instrumental, and other oblique cases;[14]

(j)   chained clauses and complex switch-reference systems that involve 'participant agreement' (see (k) below);

(k)   dedicated inflectional morphology on certain adjunct phrases and clauses, in correlation with the syntactic function (S, A, O) of the participant they are predicated of (this feature is known as 'participant agreement');

(l)   transitivity harmony in certain types of verb phrases (mainly those involving (associated) motion morphemes, auxiliaries, and phasal verbs);

(m)  evidentiality systems with mostly non-cognate markers;

(n)   graded tense systems that distinguish different degrees of distance from a deictic center, typically the time of speaking.

There is currently no general agreement in regards the internal classification of the Pano family. Fleck (2013) distinguishes two main branches: Mayoruna (called Northern Branch by other authors, which consists of a handful of languages) and Mainline (grouping all other languages). In turn, Valenzuela & Guillaume (2017: 14-17) provisionally put forward a conservative proposal which contemplates four first-level branches: Northern (Fleck's Mayoruna), Western/Preandine (only Kashibo-Kakataibo), Southeastern (only Kasharari), and Central-Southern (all remaining languages). Finally, based on a systematic phylogenetic comparison Zariquiey & Valenzuela (forthcoming) divide the Pano family in three main branches: Northern, Southeastern (Kasharari), and Central-Southern (all remaining languages). Nevertheless, these authors suggest that Kashibo-Kakataibo may be more distantly related to the other Central-Southern languages than revealed by their comparison, a fact that could have been obscured by the presence of numerous loans from the neighboring Ucayali Pano tongues (Shell 1975:110; Wistrand-Robinson 1998:115-116; see also 3.2.1.3). Given the discrepancies summarized above, here we adopt a conservative (and most probably over-differentiating) approach and follow Valenzuela & Guillaume's four-way division of the Pano family: Northern, Western/Preandine, Central-Southern, and Southeastern.

The discussion provided in this paper is based on data from two Northern languages (Matis and Matses), the single member of the Western/Preandine Branch (Kashibo-Kakataibo), and five members of the Central-Southern Branch (Shipibo-Konibo, Kashinawa, Yaminawa, Chakobo, and Marubo). The inclusion of five Central-Southern languages is justified by the much larger size and more complex internal structure of this branch. On the other hand, due to the scarcity of Kasharari data the Southeastern Branch is unfortunately not represented here.[15] Table 1 lists the eight languages selected alongside the descriptive and data sources on which our analysis is based.

---

[14] The syncretism may be partial as is the case of the locative-allative in Shipibo, which may be formally identical to the ergative, or be coded by other morphemes. Kasharari represents an exception in that the ergative is formally different from the genitive, instrumental, and locative.

[15] It is possible that the extinct languages Atsawaka/Yamiaka and Arasaire constituted a separate Southwestern Branch of Pano. Unfortunately, there is not enough information to arrive at a definitive conclusion.

| Branch | Sub-branch | Language | Location | Number of Speakers | Sources |
|---|---|---|---|---|---|
| | | | | Table 1. Languages surveyed in the study[16] | |
| Northern | | Matis | Amazonas, Brazil | 457 | Ferreira 2005 |
| | | Matses (Mayoruna) | Amazonas, Brazil; Loreto, Peru | 4.200 | Fleck 2003, 2007; Fleck et al. 2012 |
| Western/Preandine | | Kashibo-Kakataibo[17] | Huánuco and Ucayali, Peru | 2.781 | Zariquiey 2011, 2018 |
| Central-Southern[18] | Ucayali | Shipibo-Konibo | Ucayali, Loreto, Huánuco and Madre de Dios, Peru. | 34.152 | Valenzuela 2003, 2015; Loriot, Lauriaut, Day 1993; Valenzuela & Valera 2005; Javier Ramírez Bardales p.c. 2018 |
| | Headwaters A | Kashinawa[19] | Acre, Brazil; Ucayali, Peru | 13.237 | Montag 2008; Kaxinawá 2011 and p.c.; Camargo 1991 |
| | Headwaters B | Yaminawa | Ucayali, Peru; Acre, Brazil; | ca. 3.000 | Neely 2019; Faust & Loos 2002 |

[16] Information about location and number of speakers was obtained from the Peruvian Ministry of Culture's database (http://www.mapasonoro.cultura.pe/#list37) for languages spoken in this country and from the Instituto Socioambiental's website (https://pib.socioambiental.org/pt/P%C3%A1gina_principal) for languages spoken in Brazil or in Peru and Brazil. For Chakobo, spoken in Bolivia, we resorted to the Biblioteca Virtual de Pueblos Indígenas (http://pueblosindigenas.bvsp.org.bo/php/level.php?lang=es&component=50&item=11).

[17] We maintain the term Kashibo-Kakataibo to facilitate the identification of the language. However, we must mention that the speakers strongly prefer the term Kakataibo.

[18] Except for considering Kashibo-Kakataibo as the single member of an independent branch, the internal division of the Central-Southern Branch corresponds to that in Zariquiey & Valenzuela (forthcoming).

[19] According to Kaxinawá (2011), the most appropriate name for this language is *Hãtxa Kuĩ* as it is referred to by its speakers, at least in Brazil. In this work the term Kashinawa is maintained to facilitate the identification of the language.

| | | | Pando, Bolivia | | |
|---|---|---|---|---|---|
| | Southern | Chakobo | Beni, Bolivia | 1.600 | Prost 1962; Zingg 1998; Córdoba, Valenzuela & Villar 2012; Tallman 2018; Tallman & Stout 2018 |
| | Marubo-Katukina | Marubo | Amazonas, Brazil | 1.043 | Oliveira & Valenzuela, ms.; Severo Dionisio Tama Marubo, p. c. 2016 |

The map in Fig. 2, shows the approximate location of the languages selected for the present study.

**Fig. 2**. Geographic distribution of the Pano languages in the study
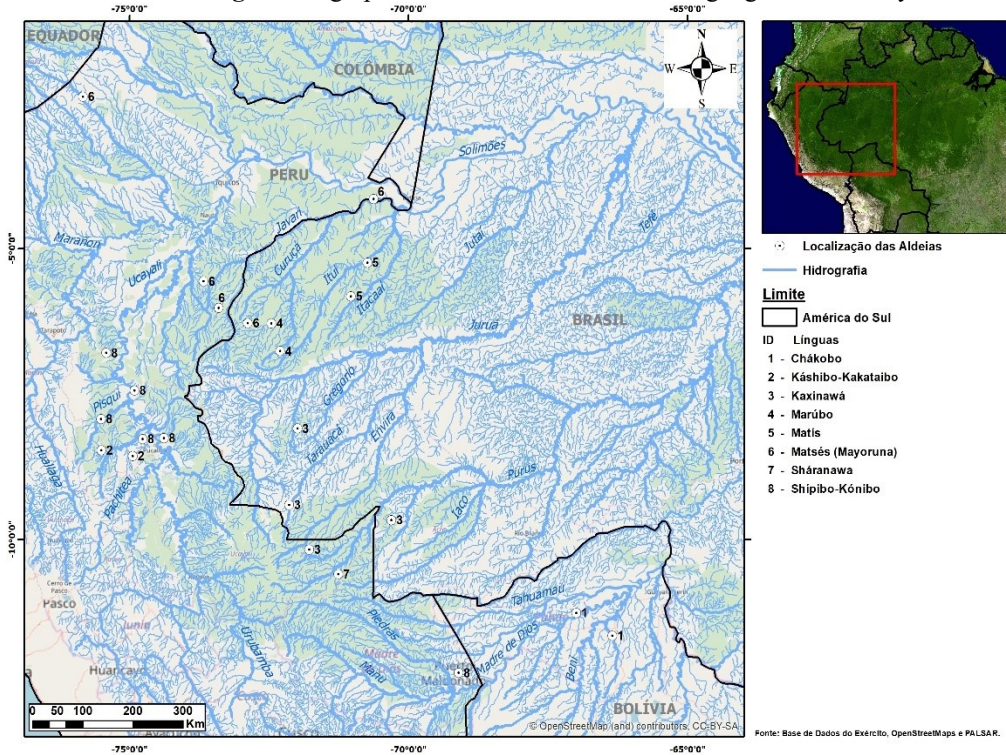


## 3. Degrees of temporal remoteness in Pano

This section deals with the graded tense systems of the eight selected Pano languages focusing on morphologically coded categories. To facilitate comparison, we have simplified

the data somehow and organized the temporal intervals in six categories based on our observations of the different systems: Future, Immediate past, Recent past, Distant past 1, Distant past 2, and Remote past. However, as will be observed in this section, the tense morphemes found in the individual languages do not always fit neatly into the aforementioned distinctions.[20] For example, in the case of Yaminawa 'Distant past 2', the lapse time covered by the morpheme spands from six months to two years before the reference time. Although we resort to chronological time and provide specific time lapses (based on the information obtained from other works and from native speakers), it must be kept in mind that time intervals are relative, flexible, subjective categories. As noted by Benveniste (1974), "Autre chose est de situer un événement dans le temps chronique, autre chose de l'inserer dans le temps de la langue..."[21]. Below we describe the prototypical meaning of each of the temporal intervals used in this study.

> **Immediate past**: Under the "Immediate past" are grouped morphemes used in expressing events that took place earlier on the same day of the reference time. Another term for the "Immediate past" would be "hodiernal".
> **Recent past**: The "Recent past" corresponds to morphemes used in describing events that occurred from the day before the reference time to a few days or a few weeks earlier.
> **Distant past 1**: This temporal lapse groups morphemes employed in expressing events that occurred from two months to a few years before the reference time.
> **Distant past 2**: Morphemes categorized under the "Distant past 2" are used in coding events that took place from a few years to many years before the reference time.
> Used by itself, the "Distant past" includes both, the "Distant past 1" and the "Distant past 2" temporal periods.
> **Remote past**: graded tense morphemes employed in reporting events that took place from many years ago to a mythical time correspond to the "Remote past" temporal lapse.

## 3.1 Northern Branch

The Northern Branch comprises four extant languages: Matis, Matses, Korubo and Kulina. However, relevant data are only available for Matis and Matses, which we analyze in the subsections below.

### 3.1.1 Matis

In his grammatical description of Matis, Ferreira (2005) distinguishes four degrees of remoteness from the time of utterance, all of them within the past. We deal here with three of these categories since the morpheme referred to as 'recent past' (equivalent to our 'immediate past') appears to be a basically aspectual marker. In addition to the graded tense markers, the Matis suffix *-nda ~ -nida* indicates unspecific past. According to the author, Matis lacks a future time morpheme.

---

[20] To facilitate comparison, the data in this paper are given in a mainly phonologically based transcription, largely using IPA symbols. Most examples have three lines: transcription with morpheme breaks, morpheme-by-morpheme glosses, and free translation. When key morphemes cannot be easily isolated, the morpheme segmentation is done in a separate line immediately below the transcription. Certain authors employ a hyphen for affixes and the equal symbol for clitics, while others use a hyphen for both. In some instances, morpheme glosses have been slightly modified for simplicity.

[21] "It is one thing to situate an event in chronic time, quite another to insert it in the time of language".

### 3.1.1.1 Recent past

The morpheme *-bo* takes part in the coding of events that occurred from one day to about three days before the reference point. This is illustrated in example 1.

1.　*uʂto-kin*　　*tupa-n*　　*piskaden*　　　　*ʃek-bo-ʂ*
　　yesterday-A　Tupa-ERG　necklace:ABS　　　make-REC.PST-3.EXP
　　'Yesterday, Tupa made a necklace.' (Ferreira 2005: 130)

### 3.1.1.2 Distant past

The suffix *-bonda*[22] expresses a time period that ranges from some days ago to months or even years ago. Matis (and Matses in 3.1.2 below) does not subdivide the distant past. In the example below *-bonda* is used to indicate 'some years ago'.

2.　*ɨnden*　　　　*mibi*　　　*muʂa-wa-bonda-ʂ*
　　some.time.ago　2SG:ABS　tattoo-VBLZ-DIST.PST-3.EXP
　　'A few years ago, (someone) tattooed you.' (Ferreira 2005: 130)

### 3.1.1.3 Remote past

The 'remote past' marker *-anpi* is used in reporting events that happened from several years ago to the mythical time. Consider the examples 3 and 4.

3.　*dadasibo-bo-n*　　*buʂono-Ø*　　　*pe-anpi-k*
　　old.man–COL-ERG　anaconda-ABS　eat-REM.PST-DECL
　　'(A long time ago) the ancestors ate anaconda.' (Ferreira 2005:131)

4.　*Wesnid-ɨn*　　　*Matses-bo*　　　*atsa*　　　*mene-anpi-k.*
　　curassow-ERG　　Matis-COL:ABS　　manioc:ABS　give-REM.PST-DECL
　　'The Curassow gave the Matis manioc.' (Makɨ Bɨush Matís, p. c. 2017)

Matis shows an interesting interaction between tense and negation. First, the language has two different negation markers: the 'non-past negative' *-emen* and the 'past negative' *-ama.* Second, the said negation markers cannot co-occur with tense morphemes in the same verb form. Thus, if the speaker chooses to specify tense in a negative expression, the main verb takes the negative marker while the tense morpheme attaches to an accompanying auxiliary verb. This is illustrated by ex. (5).

5.　*kamun-ɨn*　*iʂma-Ø*　　*ak-ama*　　　*ik-bonda-ʂ*
　　jaguar-ERG　Iʂma-ABS　kill-PST.NEG　AUX-DIST.PST-3.EXP
　　'The jaguar did not kill Iʂma (man's proper name).' (Ferreira 2005: 148)

### 3.1.2 Matses

Tense morphemes in Matses simultaneously code evidentiality, subject agreement, or evidentiality and subject agreement. Like Matis, Matses has no dedicated future tense markers. Instead, a future interpretation can be obtained by employing the 'intentional' *-nu*, a 'future potential' suffix, or the 'non-past' *-e* (Fleck 2003: 396, 403). The latter morpheme is the

---

[22] This suffix may be analyzed as *bo-* 'recent past' + *-nda* 'unspecified past' (see Ferreira 2005: 130).

principal means to code the present, but a verb form containing -*e* can have future, present progressive, or present habitual interpretations (p. 403).

Within the past, Matses distinguishes the following degrees of remoteness: recent past, distant past, and remote past. As expected, cut-off points are not rigidly defined. A special characteristic of the language is the fact that "Every time a speaker reports a past event, he must also reveal the source of knowledge…." (Fleck 2003: 398). The evidential values coded by Matses are three: direct experience, inference, and conjecture.

### 3.1.2.1 Recent past

The recent past spans from shortly before the speech act to about one month ago. This cut-off point may be motivated by the lunar month (Fleck 2003: 399). The recent past markers, which simultaneously convey an evidential value, are given below.

| | |
|---|---|
| -*o* | Recent Past Experiential |
| -*ak* | Recent Past Inferential |
| -*aş* | Recent Past Conjecture |

According to Fleck (2007: 598), if an individual sees a dead man with no sign of a natural cause of death, s/he could utter (6a) below. The expression in (6b) would be appropriate only if the speaker had not yet seen the corpse.

6a. *nɨnɨchokid-n*   *ak-**ak***
  shaman-ERG    kill-REC.PST.INFER
  'A shaman (must have) killed him.' (Fleck 2007: 598)

6b. *nɨnɨchokid-n*   *ak-**aş***
  shaman-ERG    kill-REC.PST.CONJ
  'A shaman (must have) killed him (and I haven't seen the corpse).' (Fleck 2007: 598)

### 3.1.2.2 Distant past

The time span of the distant past ranges from about one month ago to the speaker's infancy. The distant past markers, which simultaneously convey an evidential value, are given below.

| | |
|---|---|
| -*onda* | Distant past experiential |
| -*nɨdak* | Distant past inferential |
| -*nɨdaş* | Distant past conjecture |

Example 7 contains the distant past experiential -*onda*.

7. *mibi*   *nid-**onda**-k*
  2sg.ABS   go-DIST.PST.EXP-IND.1/2
  'You went long ago.' (Fleck 2003: 395)

**3.1.2.3 Remote past**

Remote past markers are used to communicate events that took place before the speaker was born or during the speaker's infancy (Fleck 2003: 395-419). Only two evidential values are distinguished in this time interval, experiential and inferential. It is not clear how *-ampik* and *-nɨdampik* differ in meaning (see Fleck 2003: 409).

| | |
|---|---|
| *-denne* | Remote past experiential |
| *-ampik* | Remote past inferential |
| *-nɨdampik* | Remote past inferential |

Fleck (2003: 399-400) reports that the suffix *-denne* 'remote past experiential' is mostly employed by old people. The next example contains this morpheme.

8. *poʃtó*                          *kues-**denne**-mbi*
   woolly.monkey:ABS          kill-REM.PST.EXP-1A
   'I used to kill woolly monkeys (when I was young).' (Fleck 2003: 402)

However, continues the author, a speaker of about 25 years of age might resort to the suffix *-denne* if s/he needs to talk about a deceased third person subject. This morphological selection most probably has cultural motivations, since in Matses society it is taboo to speak of the dead, particularly if they have recently passed away. Thus, the use of *-denne* by younger people can be interpreted as a discourse strategy to distance the event and make talking of the dead more socially acceptable.

When reporting mythical and historical events the main verb often takes *-pak*, which is segmentable into *-pa* 'topic continuity' (glossed as 'comment') and *-ak*, probably the 'recent past inferential;' since in this context *-ak* does not imply inference or recent past, Fleck calls it 'narrative past.' The *-pak* inflected sentence is then embedded in a quotative clause that bears the 'distant past inferential' *-denne* (Fleck 2003: 421). Consider example 9.

9. *Matses-n*       *kun*           *tita*            *bed-**pa-ak***
   Matses-ERG      1SG.GEN       mother:ABS       grab-COMMENT-NAR.PST
   *ka-**denne**-k*            *u-bi*              *usun-ʂo*
   say-REM.PST.EXP-IND       1sg.ABS           be.pregnant.with-when.S/A/O>O
   'They tell that Matses captured my mother while she was pregnant with me.' (Fleck 2003: 421)

When reporting inferred information, the Matses verb exhibits "double tense;" i.e., it specifies two different temporal distances: The distance from the time the event happened to the time the evidence was discovered, and the distance from the discovery time to the utterance time (Fleck 2007). The double tense strategy is illustrated in (10a) and (10b).

10a. *mayu-n*                     *bɨste-wa-**ak-onda**-ʂ*
    non.Matses.Indian-ERG      hut-make-REC.PST.INFER-DIST.PST.EXP-3
    'Non-Matses Indians (had) made a hut.'
    [a recently-made hut was discovered by the speaker a long time ago]
    (Fleck 2007: 589)

10b. *mayu-n*        *bɨste-wa-**nɨdak-o-ʂ***
non.Matses.Indian-ERG     hut-make-DIST.PST.INFER-REC.PST.EXP-3
'Non-Matses Indians (had) made a hut.'
[an old hut was discovered by the speaker a short time ago]
(Fleck 2007: 590)

So far, double tense has not been reported for any other Pano language.

## 3.2 Western/Preandine Branch

The Western/Preandine Branch is composed of a single language, Kashibo-Kakataibo, spoken on the eastern slopes of the central Peruvian Andes.

### 3.2.1    Kashibo-Kakataibo

According to Zariquiey (2011, 2018), seven Kashibo-Kakataibo suffixes, occupying three different slots in the verb, have tense as (part of) their basic meaning and cannot co-occur with another tense marker. These suffixes code varying degrees of temporal distance in the past and generally trigger a certain aspectual interpretation. Zariquiey (2011, 2018) does not report any future tense morpheme.

### 3.2.1.1 Immediate past

The suffix *-pun* codes events that were completed a few hours before the speech act, necessarily on the same day. Moreover, events marked with *-pun* seem to always have an imperfective aspect value (Zariquiey 2011: 434). The suffix *-pun*, exemplified in (11), is not obligatory.

11.    *pɨkara-kɨbɨtan*        *kana*        *sinan-**pun**-i-n*
dawn-DS/A/O:SE:TR       NAR.1SG     think-IMM.PST.hours.ago-IPFV-1/2
*ñu mɨɨ-i*     *kwan-ti*
work-PURP    go-NMLZ
'When it dawned (a few hours ago), I was thinking about going to work.'
(Zariquiey 2011: 434)

### 3.2.1.2 Recent past

Unlike other Pano languages Kashibo-Kakataibo divides the recent past in two subcategories marked by *-on* 'on the day before' and *-ɨʂan* 'days ago' (about a week ago). Both suffixes, illustrated in (12) and (13), seem to contribute a perfective aspectual meaning.

12.    *kɨkɨbɨ*               *kaisa*          *a*        *munu*      *ka*
kɨki-i-bi                kaisa          a        munu      ka
shout-S/A>S:SE-although   NAR.REP.3    that.O    slowly    NAR.3
*nitima*               *nukɨn*         *nanɨbain*        *kamɨnɨ*
nit-i-ma              nukɨn         nanɨt-bai-n      ka=mɨnɨ
walk-S/A>S(SE)=NEG     1PL.GEN     brother-COL=ERG   NAR.3=MIRAT
*kapɨ*       *kamó*       *aʂun*       *ain*       *tɨʂaká*
kapɨ        kamó      a-ʂun       ain       ti-ʂaká
caiman      big        do-S/A>A    3SG.GEN    NECK-hide.ABS

*rakanbionşa*
rakan-bian-**on**-ş-a
lean-going (TR)-REC.PST.day.before-3-NON.PROX
'It is said that, shouting, (he said): —Look! Without walking slowly, our brothers, killing a big caiman, have laid its neck hide.' (Zariquiey 2011: 438)

13. | *iskinun* | *karamina* | *aisame* | *isɨşan* |
    | is-kin-nun | karamina | aisamera | is-**ɨşan**-n |
    | see-APPL-DS/A/O(POE) | NAR.INT.2 | a.lot.of:ABS | see-REC.PST-1/2 |

    'Could you (let me go there) to see (the animals) with him? I have seen a lot a few days ago.' (Zariquiey 2011: 438)

### 3.2.1.3 Distant past 1

There are two distant past 1 suffixes, *-yantan*[23] and *-rabɨ.* The former takes part in the expression of events that occurred one or some months before the reference point. Zariquiey (2011) reports that *-yantan* is absent from his text corpus and he only learned of it during elicitation. Example (14) features this suffix.

14. | *Juan* | *ka* | *Lima=nu* | *kwan-**yantan**-ş-a* |
    | Juan:ABS | NAR.3 | Lima=DIR | go-DIST.PST1-3-NON.PROX |

    'Juan went to Lima a few months ago.' (Zariquiey 2011: 439)

The suffix *-rabɨ* 'habitual non-remote past' is used to code events that used to happen in the past but not more than two years before the reference point. That is, it covers roughly the same time span as *-yantan* but has an additional habitual meaning. The suffix *-rabɨ* is always followed by the perfective aspect marker *-a* and is not obligatory (Zariquiey 2011: 435).

15. | *No=n* | *ka* | *nu* | *ñon-**rabɨ**-a-ş-a.* |
    | foreigner=ERG | NAR:3 | 1PL:O | not.share.w/-HAB.PST-PFV-3-NON.PROX |

    'The non-Kakataibo people did not use to share (the land) with us, not long ago.' (Zariquiey 2011: 435)

### 3.2.1.4 Distant past 2 and Remote past

The suffix *-akɨ* expresses a time lapse that spans from 2 years ago to mythical times. Thus, this marker, featured in examples (16) and (17), covers both the distant past 2 and the remote past.

16. | *Nantankɨşun* | *kaisa* | *puin* | *'axankɨşa* |
    | nan-tankɨşun | ka=is=a | pui=n | 'axan-**akɨ**-ş-a |
    | put-S/A>A:PE | NAR=REP=3 | excrement=INS | fish.using.poison-REM.PST-3-NON.PROX |
    | *ñapa.* | | | |

---

[23] As described in Valenzuela (2003), the neighboring sister language Shipibo-Konibo also features the distant past 1 markers *-yantan* and *-rabɨ*. In addition to formal identity the Kashibo-Kakataibo and Shipibo-Konibo tense suffixes in question exhibit an obvious similarity in terms of meaning and distribution (see 3.3.1.4). Zariquiey (2011) notes that *-yantan* did not undergo the systematic change ($y > ɲ$) that is characteristic of the Lower Aguaytía Kakataibo dialect he describes. Moreover, the cognate free form *ɲantan* 'morning' (which did undergo the expected $y > ɲ$ change) is attested in the language. Therefore, Kashibo-Kakataibo might have borrowed the tense marker *-yantan* (and maybe also *-rabɨ*) from Shipibo-Konibo.

ñapa
fish.sp.:abs
'It is said that, after putting (it), he used to fish with excrement.' (Zariquiey 2018: 344)

17.  *norte=nu    kaisa      nukɨn     tʃaiti      tsó-**akɨ**-ʂ-a*
     north=LOC   NAR.REP.3   1PL.GEN   ancestor:ABS   live-REM.PST-3-NON.PROX
     'It is said that our ancestors lived in the northern territory.' (Zariquiey 2011: 714)

Two other suffixes, *-kin* and *-kian*, have remote past and habitual aspect values. Additionally, these morphemes express subject cross-referentialty; *-kin* codes 1st and 2nd person, and *-kian* codes 3rd person. Zariquiey (2011) indicates that *-kin* and *-kian* cannot combine with any other inflectional suffix, except for the plural *-kan* (p. 449).

### 3.3 Central-Southern Branch

The Central-Southern Branch of Pano is represented in this study by five languages from an equal number of subdivisions: Shipibo-Konibo (Ucayali), Kashinawa (Headwaters A), Yaminawa (Headwaters B), Chakobo (Southern), and Marubo (Marubo-Katukina).

### 3.3.1 Shipibo-Konibo (Ucayali Sub-Branch)

Shipibo-Konibo features six overt tense morphemes; five concern distinctions within the past and one corresponds to a specific crasternal or tomorrow future. In the absence of a dedicated marker, the incompletive *-ai* triggers a present tense interpretation while the completive *-kɨ*, when used by itself, indicates that the event has just taken place. Although these aspectual suffixes may prompt a tense reading, they are excluded from the present description given that they do not have tense as their basic meaning.

### 3.3.1.1 Proximate future

The suffix *-ya(t)* codes tomorrow future. It has been reported that this morpheme is falling out of use (Valenzuela 2003: 285). Currently, *-ya(t)* is only attested with two intransitive verbs which can be found in examples (18) and (19).

18.  *ßakiʃ              i-**yat**-ai*
     one.day.from.today   AUX.I-PROX.FUT-IPFV
     '(The event) will take place tomorrow.' (Valenzuela 2003: 285)

19.  *(ßakíʃa)           maioʃiain      ka-**yá**-rißi-ai*
     one.day.from.today:DIR.EV   Pucallpa:ALL   go-PROX.FUT-REPET-IPFV
     'Tomorrow s/he will go to Pucallpa again.' (Loriot; Lauriault and Day 1993: 421)

### 3.3.1.2 Immediate past

The suffix *-wan* has a hodiernal value, i.e. it takes part in the expression of past events that happened within the same day of the speech act. This is illustrated below.

20.     *Rama*         *ßariapan=ra*       *ka-**wan**-kɨ*
        Now          at.noon=DIR.EV      go-IMM.PST-PFV
        'S/he left today at noon.' (Valenzuela 2003: 286)

### 3.3.1.3 Recent Past

The suffix *-ißa(t)* expresses a period of remoteness that extends from yesterday to approximately a few weeks ago. It cannot refer to an event that took place earlier on the same day. Example (21) contains the suffix *-ißa(t)*.

21.     *ßakiʃa*                  *ißakɨ*             *hatíßi honißo*        *itan*
        bakiʃ=ra               i-**ißa**-kɨ          hatíßi honi=ßo     itan
        one.day.from.today=DIR.EV   AUX.I-REC.PST-PFV    all       man=P          and
        *ainßoßo*           *tsinkita*         *nato hɨpɨ ian hɨman.*     *hainra*
        ainßo=ßo         tsinki-t-a        nato hɨpɨ ian hɨma=n     hain=ra
        woman=PL:ABS   gather-MID-PP2   this    *yarina* lake village=LOC   there=DIR.EV
        *non*          *ʃina**inßa**kɨ*       *miskókiska*   *tɨɨʃokoßo*          *ati.*
        no=n       ʃinan-**ißa**-kɨ        miskókiska   tɨɨ=ʃoko=ßo        a-ti
        1PL=ERG   think-REC.PST-PFV    all.kinds.of    work=DIM=PL:ABS   AUX.T-INF
        'Yesterday we gathered, all men and women, in the San Francisco de Yarinacocha village. There we agreed to carry out many tasks...' (Valenzuela & Valera 2005: 200)

### 3.3.1.4 Distant past 1

The morphemes *-rabɨ* and *-yantan* denote the same degree of remoteness, approximately from two months ago to a few years ago. Nonetheless, *-rabɨ* and *-yantan* differ in terms of aspect since they additionally code imperfectivity and perfectivity, respectively (Valenzuela 2003: 286-288). This is illustrated in (22) and (23).

22.     *wɨtsa ßari=tian=ra*         *nokon wɨtsa=n*                  *yamíkiri*
        other   sun=TEMP=DIR.EV     POS1   same-sex-sibling=ERG       in.the.morning
        *hawɨki-a*           *pɨkáo*          *kirika*         *wiʃa-**rabɨ**-kɨ.*
        thing-AUX.T:PP2    after          letter:ABS      write-DIST.PST.1.IPFV-CMPL
        'Last summer, after the morning meal, my brother (usually) wrote letters.'
        (elicitation, man speaking) (Valenzuela 203: 287)

23.     *wɨtsa ßaritian=ra*          *nokon wɨtsa=n*                *yamíkiri*
        other    summer=DIR.EV      POS1   same.sex.sibling=ERG       in.the.morning
        *hawɨki-a*           *pɨkáo*      *kirika*        *wiʃa-**yantan**-kɨ.*
        thing-AUX.T:PP2    after        letter:ABS      write-DIST.PST.1.PFV-CMPL
        'Last summer, after the morning meal, my brother wrote a letter.'
        (elicitation, man speaking) (Valenzuela 2003: 287)

### 3.3.1.5 Distant past 2

The markers *-katit-ai* and *-kato* denote a time lapse that spans from a few years ago to many years ago. In addition, they indicate imperfective and perfective aspect, respectively.

Note that *-katit-ai*, exemplified in 24, is morphologically complex, consisting of the tense morpheme *-katit* and the incompletive suffix *-ai*.[24]

24. *moatian*    *nawa=ßaon*    *tʃopa*    *no=n*
long.ago    non.Indian=PL:GEN    clothes:ABS    1PL=ERG
*bi-ama-**katit**-ai.*
get-NEG-DIST.PST2.IPFV-INC
'Long time ago, we did not use to buy clothes in the stores.' (Valenzuela 2003: 288)

In (25) below, a woman in her forties talks about the *Ani Xeati* festivity (girls' puberty rites) that she witnessed as a child. Note that the verb is nominalized.

25. *ani şati*    *ɨ=n*    *nokon*    *ßɨro=n=ßi*    *oin-**kato***
Ani Xeati    1SG=ERG    POS.1SG    eye=MEANS=EMPH    see-DIST.PST.2.PFV
'the Ani Xeati festivity (girls' puberty rites) that I saw with my own eyes'
(Valenzuela & Valera 2005: 41)

### 3.3.1.6 Remote past

The suffix *-ni* codes remote past, including mythical time, as shown in (26) below.

26. *yoáʃiko*    *inka=ronki*    *i-**ni**-kɨ,*
stingy    Inka:ABS=RER.EV    AUX.I-REM.PST-CMPL
*moatian*    *hawɨtian=ßo=ßira*    *no=a*    *pikot-ama=tian*
long.ago    when=PL=INFER    1PL=ABS    come.out-NEG=TEMP
'This happened to the Stingy Inca long time ago, when we had not been born yet.'
(Valenzuela & Valera 2005: 165)

The distant past 2 *-kati(t)* is also attested with events that are contemporaneous to those coded by *-ni*. In (27) below, manufacturing the clothes is part of the *Ani Xeati* to cut the girls' flakes. Note that *-katit* is used when referring to the festivity as a whole, while *-ni* is selected when referring to a preparatory task (manufacturing the clothes).

27. *moatian*    *a-**káti**-kan-ai*    *ßistíti*    *ani şiati*
long.ago    AUX.T-PST4-PL-INC    cut.the.flakes=INF    *Ani Xeati*:ABS
*rikɨn=pari*    *tʃopa*    *a-pao-ka(n)-**ni**-kɨ.*
first.place=first    clothes:ABS    AUX.T-HAB-PL-PST5-CMPL
'Long time ago (our ancestors) organized the *Ani Xeati* festivity (female puberty rites) to cut the (girls') flakes... First, they manufactured the clothes....'
(Valenzuela 2003: 289)

### 3.3.2 Kashinawa (Headwaters Sub-Branch A)

Kashinawa codes the present tense by means of an imperfective aspect marker. The following subsections introduce the morphemes that appear to have a basically temporal meaning. They correspond to distinctions in the future and the past.

---

[24] In contrast, *-kato* cannot be synchronically segmented, although it has been suggested that it might have developed from the combination of *-katit* and the completive *-kɨ* (Valenzuela 2003: 294).

### 3.3.2.1 Future

The future suffix *-ʂã ~ -ʂan* applies to events that will happen two or more days after the utterance time. Generally, the present tense is used to express future events of the same day or the next day (Montag 2004: 46). However, in a collaborative work with Joaquim Kaxinawá (2012) it was concluded that this suffix is part of a three-way system expressing different levels of certainty that an event will happen in the future. The suffix *-ʂan* corresponds to the intermediate level and indicates high probability. Note in (28) that this suffix may also have a crasternal (or tomorrow future) value.

28. *miʃukiri     ɨ̃          naʃi    ka-ʂan-aii*
    tomorrow    1SG.NOM      bathe   go-FUT-1/2.PRES/FUT.IPFV
    'Tomorrow I will bathe.' (Joaquim Kaxinawá, p.c. 2012)

29. *uʂɨ    bɨtsã       ɨ̃          ka-ʂan-aii,              Pucallpa anu-rã*
    moon   other:TEMP  1SG.NOM     go-FUT-1/2.PRES/FUT.IPFV Pucallpa ALL-FOC
    'In one month, I will go to Pucallpa.' (Montag 2004: 46)

### 3.3.2.2 Immediate past

The most common interpretation of the suffix *-ʂu* indicates that an event happened immediately before the moment of speech (Kaxinawá, p.c. 2012; Camargo 1991). However, this suffix may also be employed to express an event that took place within a larger time span on the same day.

30. *ɨ̃          nami  ʂui        pi-ʂu-ki*
    1SG.NOM      meat  roast:ABS  eat-IMM.PST-AFFIRM
    'I ate roast meat (I just ate it)' (Joaquim Kaxinawá, p. c. 2012)

31. *katʃa=rã     hutima     rɨskɨʂu-ki*
    party=FOC    early       finish-IMM.PST-AFFIRM
    'The party finished in the morning (I am speaking at 6 p.m.)'
    (Joaquim Kaxinawá, p.c. 2012)

### 3.3.2.3 Recent past

The Kashinawa marking for an event that took place yesterday to a few weeks ago presents the alternate forms *-ʃiã* and *-ʃina*. The allomorphic distribution depends on whether the host base has odd *vs.* even-numbered syllables (Montag 2004: 45; see also Lauriault 1948; Valenzuela 2003: 290-291; Gonzalez 2005). Therefore, in (32), (34), and (35) the selected form is *-ʃiã* given that the bases have an odd number of syllables. On the other hand, the base *rɨtɨ* in (33) is disyllabic and hence takes the allomorph *-ʃina*.[25] Note also that (32) and (33) are given the same English translation; (32) contains the transitive pro-verb or auxiliary *a-*, whereas (33) contains the specific verb *rɨtɨ-*.

---

[25] According to Montag (2008), speakers may show some variability with regard to the application of this rule. This was also observed in the speech of our collaborator and colleague Joaquim Kaxinawá. It was also noted that addition of the benefactive/malefactive applicative suffix *-ʂun* to the verb stem does not affect the application of the rule. In contrast, when the stem takes the causative *-ma* only the form *-ʃina* was selected.

32.     *ɨ*             *tʃaʂo*            *a-ʃiã-ki*
    1SG.NOM           deer:ABS          AUX.T-REC.PST-IND
    'I killed a deer' (Joaquim Kaxinawá, p. c. 2012)

33.     *ɨ*             *tʃaʂo*            *rɨti-ʃina-ki*
    1SG.NOM           deer:ABS          kill-REC.PST-IND
    'I killed a deer' (Joaquim Kaxinawá, p. c. 2012)

34.     *ɨ*             *ʃavi*           *hakima-ʃiã-ki*
    1SG.NOM           key:ABS          forget-REC.PST-IND
    'I forgot the key.' (Joaquim Kaxinawá, p. c. 2012)

35.     *ɨ*         *mɨʃukiri*     *nami*  *ʃui*         *pi-ʃiã-ki*
    1SG.NOM     yesterday     meal  roast:ABS     eat-REC.PST-IND
    'I, yesterday, ate roast meat.' (Joaquim Kaxinawá, p. c. 2012)

Although the preferred cut-off point of *-ʃiã ~ -ʃina* is set at approximately two weeks ago, the time span could be expanded so as to include events that took place even a couple of years ago. The sentences below illustrate the use of the extended meaning of this marker.

36.     *ma*       *bariã*     *rabɨ*  *binu-ʃina-ki*              *ɨ*             *tʃaʂu*
    already   summer    two  pass-REC.PST-AFFIRM      1SG.NOM         deer:ABS
    *tsaka-ʃina-rã*
    shoot.w/arrow-REC.PST-FOC
    'Two years ago, I shot a deer with an arrow.' (Kaxinawá, c.p. 2012)

### 3.3.2.4 Distant past 1

The distant past 1 marker is *-ima*. According to Montag (2004: 45), this suffix is used with events that happened between two weeks to one or sometimes two years ago; thus, *-ima* partially overlaps with *-ʃiã ~ ʃina*. In our data, however, *-ima* codes events that occurred further in the past, spanning from 2 to about 25 years ago (Joaquim Kaxinawá, p. c. 2012).

37.     *2008*  *ɨ*           *brasília*       *hu-ima-ki*
    2008   1SG.NOM     brasília       come-DIST.PST.1-IND
    'In 2008 I came to Brasília (it is now 2012).' (Joaquim Kaxinawá, p. c. 2012)

38.     *bariã*       *2000*    *ɨ*         *hiwɨ*   *wa-ima-ki*
    summer      2000     1SG.NOM      house  do-DIST.PST.1-IND
    'On the summer of 2000 I built my house (it is now 2012).'
    (Joaquim Kaxinawá, p. c. 2012)

### 3.3.2.5 Distant past 2

The distant past 2 marker *-yama* is attested with events that took place many years ago. In the following examples, a speaker who is about 50 years of age talks about his early youth.

39.     *bɨrunã-tɨ̃*   *ɨ*        *nawã*     *hã̃tʃa*    *tapɨ̃*   *taɨwa-yama-ki*
    young-when  1SG.NOM  non.Indian  language  learn  begin-DIST.PST.2-IND
    'When I was young, I began to learn Portuguese' (Joaquim Kaxinawá, p. c. 2012)

40.　*bɨrunã*　　　*ɨ̃*　　　　　*katʃa*　*nawa-**yama**-ki*
　　　young　　　　1SG.NOM　　party　dance-DIST.PST.2-IND
　　　'(When I was) young, I danced (in) the party.' (Joaquim Kaxinawá, p. c. 2012)

### 3.3.2.6 Remote past

The suffix *-ni* codes remote past. In (41) the same 50 year-old speaker talks about his early childhood. In turn, example (42) belongs to a myth that is well known among Pano peoples.

41.　*bakɨ-iʃta-tũ*　　*ɨ̃*　　　　*hãtxa*　*kuĩ*　*ɨ̃*　　　　*tapĩ-**ni**-ki*
　　　boy-little-when　1SG.NOM　language　true　1SG.NOM　learn-REM.PST-IND
　　　'When I was a little boy, I learned my true language.' (Joaquim Kaxinawá, p. c. 2012)

42.　*yubɨ=rã*　　　*hawĩ*　　*puĩ*　　　　　　　　*nani-wĩ*
　　　Yubɨ.ABS=FOC　3SG.GEN　opposite.sex.sibling.ERG　genipa-INST
　　　*bɨ-puʂ-**ni**-kiaki*
　　　FACE-pass-REM.PST-REP.EV
　　　'Yubɨ's sister painted his face with genipa.' (Joaquim Kaxinawá, p. c. 2012)

### 3.3.3 Yaminawa (Headwaters Sub-Branch B)[26]

According to Neely (2019: 317), Yaminawa distinguishes 6 degrees of remoteness in the past and 3 in the future. Clarifying that the tense morphemes do not have an exact meaning, the author offers the tables reproduced below (with minor adaptations).

**Table 2**. Future tense suffixes in Yaminawa (Neely 2019)

| Form | Meaning |
|---|---|
| *-waidaka* | 'tomorrow, a few days from now' |
| *-nuũpukui* | 'weeks or months from now' |
| *-daka* | 'months or years from now', 'one day' |

**Table 3**. Past tense suffixes in Yaminawa (Neely 2019)

| Form | Meaning |
|---|---|
| *-wa* | 'last night' |
| *-waiyabea* | 'yesterday' |
| *-ita* | 'a few days ago, a few weeks ago' |
| *-yabea* | 'weeks to months ago' |
| *-ti* | '6-9 months to 1-2 years ago' |
| *-di* | 'more than a few or several years ago' |

---

[26] According to Neely (2019, 19-22), there is a "Yaminawa dialect complex" which comprises Yaminawa, Nawa (Yora), Sharanawa, Yawanawa, Mastanawa, Marinawa, Moronawa, Chaninawa, Chitonawa, Shanenawa and Shawanawa. She relies on Fleck's (2013) classification, but also on "Yaminawa speakers' own judgement". Neely's work was primarily based on the Yaminawa spoken in Sepahua while Faust & Loos (2002) worked with Yaminawa speakers from Yurúa. Neely refers to the existence of phonological, morphological and syntactic variation within the "Yaminawa dialect complex". Her observations raise questions about the internal constitution of this subgroup.

### 3.3.3.1 Future

Yaminawa has three future suffixes that encode different degrees of remoteness from the utterance time. While Neely (2019: 317-318) employs numbers to differentiate these morphemes, here we assign them names mirroring the past distinctions made by the other languages in the present study.

### 3.3.3.1.1 Proximate future

The proximate future morpheme *-waidaka* is used to express events that will take place one or a few days from the reference time.

43.  *awɨtia*      *mĩ*        *kawaidakamɨ,*      *ʧiʧi*
     awɨtia        mĩ         ka-**waidaka**=mɨ́,     ʧiʧi
     when          2SG.NOM    go.SG-FUT1=INTERR   maternal.grandmother
     'When are you going tomorrow, grandmother?' (Neely 2019: 171)

When the proximate future co-occurs with the enclitic *=xaki* (which indicates that there is a lapse of time between two events), the allomorph *-wai* must be selected (Neely 2019: 427) (see also the Recent Past 2 in 3.3.3.2.2). This is illustrated in the next example.

44.  *ĩ*           *batu=wɨ*     *ka-nũ*       *yawa=ya*        *u-wai=xaki*
     1SG.NOM       2PL.ACC=COM   go-OPT       peccary=PROP     come-FUT1=LAPSE
     'I'll go with y'all, and later we'll bring back peccary.' (Neely 2019: 427)

### 3.3.3.1.2 Distant future

The distant future suffix *-nũpukui* is used with events that will take place weeks or months from the reference time.[27] The free translation in the following example indicates that certain degree of uncertainty is also part of this morpheme's meaning.

45.  ájánṹpùkùì
     ájá-**nṹpùkùì**
     drink-FUT2
     'will drink (weeks or months from now, maybe)'

### 3.3.3.1.3 Remote future

The remote future morpheme *-daka* indicates that the event depicted by the verb will occur months or years from the reference time. In ex. (46) *-daka* expresses an indeterminate time.

46.  tsuaki               besedakabaki
     tsua=ki              bɨsɨ-**daka**=ba=ki
     someone=LAT          be.afraid-FUT3=NEG=ASSERT
     '(We) will never again fear anyone.' (Neely 2019: 393)

---

[27] This morpheme is described by Neely (2019: 318) but not by Faust & Loos (2002). However, the latter authors record the verb *poko* 'do in the future'.

### 3.3.3.2 Past

As anticipated earlier, Neely (2019: 317-318) describes 6 graded tense morphemes corresponding to different time lapses in the past. She analyzes *-a* as an aspect suffix which may yield an immediate past interpretation.[28]

### 3.3.3.2.1 Immediate past

The suffix *-wa* is analyzed by Neely (2019: 318) as meaning 'last night.' Its form resembles those of the proximate future and the distant past; both have the allomorph *-wai*.

47. *adu    piamãkĩ, mã yabɨ piwaxakãki, ãwĩwãwĩ piamãkĩ wĩnã*
    adu    pi-a=ba=kĩ,             mã        yabɨ    pi-**wa**=xa-kad=ki,
    majás  eat-PFV-NEG-ASSERT  already     night    eat-PST1=LAPSE₁-PL.NF=LAPSE₂
    ãwĩwãwĩ        pi-a=ba=kĩ                  wĩnã
    woman.ERG    eat-PFV=NEG=ASSERT        early
    'She hadn't eaten the *majás* (lowland *paca*, *Cuniculus paca*) because they had eaten before in the night, and the woman hadn't eaten early.' (Neely 2019: 427)

### 3.3.3.2.2 Recent past

Yaminawa makes two time-lapse distinctions within the recent past, which do not overlap. These are coded by *-waiyabɨa* and *-ita*. The morpheme *-waiyabɨa* (~ *-wai* when in combination with *=xaki*) encodes 'yesterday' past (Neely 2019: 318).

48. *mã    kuuwaiyabɨa ayer, al día siguiente    kaxũ, mã    wiʧikeraita*
    mã     kuu-**waiyabɨa** ayer, al día siguiente    ka=xũ, mã    wiʧi-kera-ita
    already burn-PST2    yesterday, the next day go.SG already find-COND-PST3
    '(The field) was burned yesterday, if they went the following day, they would have found it.' (Neely 2019: 435)

Faust & Loos (2002: 120) interpret *-waiyabɨa* as 'yesterday past tense, progressive aspect' and suggest that it probably arose from the combination of *-fai* (i.e. *-wai*) 'one day from today' and *-yamea* (i.e. *yabɨa*) 'near past.' Furthermore, the authors observe that the progressive *vs.* non-progressive distinction is becoming lost in the 'yesterday' past (as well as the distant past) and, hence, some speakers interpret this morpheme as simply indicating 'yesterday' past.

The morpheme *-ita*, exemplified in (49), refers to events that took place a few days or a few weeks prior to the reference time (Neely 2019: 318).

---

[28] Faust & Loos (2012) describe 4 past tense morphemes only, including the suffix *-a*.

49.　　*mã*　　　　*ɨa*　　　　　　*yuitʃakatuʃipaitaba*
　　　　mã　　　　ɨa　　　　　　yui-tʃaka-tuʃi-pai-**ita**=ba
　　　　2PL.NOM　　1SG.ACC　　tell-BAD-AM:do.upon.arrival-DESID-PST3=NEG
　　　　'Y'all didn't immediately tell me upon arriving a few days ago!' (Neely 2019: 143)

### 3.3.3.2.3 Distant past 1

Neely (2019: 318) describes *-yabɨa* as a past morpheme covering a time lapse that ranges from weeks to months before the time of utterance. Consider ex. (50).

50.　　*tii,*　　　　　*awɨtiara*　　*ɨ̃*　　　　*kayabɨa*
　　　　tii,　　　　　awɨtia-ra　　ɨ̃　　　　ka-**yabɨa**
　　　　EXCLAM　　　when-DUB　　1SG.NOM　　go-PST4
　　　　'Oh, when did I go (weeks to months ago)? (Neely 2019: 319)

As indicated above, Faust & Loos (2012: 121) analyze *-yabɨa* as encoding 'distant past tense, progressive aspect', but recall their observation about the loss of aspect distinction in this morpheme.

### 3.3.3.2.3 Distant past 2

According to Neely (2019: 318), the past tense morpheme *-ti,* illustrated in (51), covers a temporal distance ranging from approximately 6-9 months to 1-2 years before the reference time.

51.　　*ɨ̃tsikai*　　　　　　*awɨtia*　　*kati*
　　　　ɨ̃=tsi=kai　　　　　awɨtia　　ka-**ti**
　　　　1SG.NOM=GUESS=CONTR　　when　　go-PST5
　　　　'But when did I go (many months ago)?' (Neely 2019: 320)

Faust & Loos (2002: 121) observe that some speakers do not distinguish between *-yamea* (i.e., *yabɨa*) and *-ti*, but assign the same meaning to both suffixes. This suggests an overlap between the two distant pasts in the current days.

### 3.3.3.2.5 Remote past

The suffix *-di* is analyzed as indicating "more than a few or several years ago" by Neely (2019: 318) and "very remote time" by Faust & Loos (2012: 122). This graded tense marker is undoubtedly cognate of *-ni* in Shipibo-Konibo, Kashinawa, and Chakobo. Indeed, Faust & Loos spell this morpheme as *-ni*, with consonant nasality. Ex. (52) features this suffix.

52.　　*pɨʃɨwã*　　　　*wadiwu*
　　　　pɨʃɨwã　　　　wa-**di**=wu
　　　　house-AUG　　make-PST6-PL
　　　　'They built a huge house (years ago).' (Neely 2019: 336)

The suffix *-di* usually combines with the aspectual morpheme *-pau*, which probably expresses habitual aspect. [29]

53. *Nukũ*      *ʃinipa-wo*   *piʃĩya*   *ari*   *i-**pau-di**-wu*[30]
    nukũ       ʃinipa-wo    piʃĩya    ari    i-**pau-di**-wu
    1PL.POS    ancestor-PL  *Envira* around be-IPFV-PST6=PL
    'Our ancestors lived around Envira river'.

It is interesting to point out that Sharanawa, which is part of the Yaminawa dialect complex, exhibits different remoteness distinctions than those described for Yaminawa.[31]

### 3.3.4 Chakobo (Southern Sub-Branch)

Chakobo has five overt morphemes that clearly code different degrees of temporal distance. Two of them concern the future, while the remaining three pertain to the past.[32] These graded markers are optional enclitics, unlike the declarative non-past *=ki* and the declarative past *=kɨ* which are mandatory[33] (Tallman & Stout 2016; but see the comment below on the pervasiveness of the remote past morpheme).[34]

### 3.3.4.1. Proximate future

The morpheme *=ʃari* indicates crasternal or tomorrow future (Prost 1962: 116; Zingg 1998: 10).[35] This is shown in the next example.

54. *ho=**ʃari**-ka=ki*
    come-PROX.FUT-PL=DECL.NPST
    'they will come tomorrow' (Zingg 1998: 10)

It must be mentioned that Chakobo features the intransitive verb *ʃari-* 'be(come) the next day' (Zingg 1998: 250), which might be the source of the crasternal suffix (see section 6).

---

[29] Faust & Loos (2002: 122) analyze this morpheme as indicating "progressive aspect", however this analysis is not supported by the data.

[30] This example is extracted from Faust and Loos (2002, 122) and analyzed according to Neely (2019).

[31] According to Lord (ms.), Sharanawa has the following graded tense morphemes: *-okoni* 'future (very early tomorrow)', *-fainaka* 'future (tomorrow)', *-fainonpakoi* 'future (the day after tomorrow)', *-ʃkin* 'future (up to one year later)', *-nonpakoi* 'future (3 months to 10 years later),' *-naka* 'future (10 years later),' *-ita* 'two days to approximately one week before the time of utterance', *-yabia* 'two weeks to eight months before the time of utterance,' *-ti* 'two weeks to eight months before the time of utterance', *-bisi* 'less distant time interval than the remote past *-di* and completive aspect', *-di* 'deep temporal distance.'

[32] Prost (1962: 117) and Zingg (1998: 12) list the suffix *-ya* which they translate as 'just now.' For example, *pi-ya-kɨ* 'he/she ate right now.' This morpheme is not included in the present comparison since it seems to have a primarily aspectual meaning. Hereafter, all Chakobo tense markers are consistently treated as enclitics rather than suffixes, following Tallman & Stout (2018) and Tallman (2018). This means that data taken from other sources have been modified accordingly.

[33] For comments on the mandatory or optional nature of the tense morphemes see Tallman & Stout (2016).

[34] The morphemes *=ki* and *=kɨ* are glossed according to the analysis in Tallman & Stout (2016). In Córdoba et al. (2011) these were interpreted as imperfective and perfective aspect markers.

[35] Prost, however, seems to consider *-ʃari* as an aspectual marker.

### 3.3.4.2 Future

Zingg (1998: 12) describes *=ṣɨ* as a future marker, without specifying a time interval. Tallman and Stout (2016) call this morpheme 'remote future.'

55.  *ka-yama=ṣɨ=ki*
     go-NEG-FUT=DECL.NPST
     '(he/she) will not go' (Córdoba, Valenzuela & Villar 2011: 42)

This future morpheme is infrequently used in daily life (Zingg 1998: 13).

### 3.3.4.3 Recent past[36]

The morpheme *=ʔitá* refers to events that took place "between four days ago and yesterday" (Tallman & Stout 2016; but see Zingg (1998: 12) who states that this morpheme indicates a time lapse "between yesterday and now"). As noted in 3.3.3.2.2., *=ʔitá* is almost identical to the Yaminawa recent past 3. Consider ex. (56).

56.  *moto      paṣa   hɨrɨ          kopi=ʔita=kɨ*
     motorcycle  new    Gere:ERG      buy=IMM.PST=DEC:PST
     'Gere bought a new motorcycle (yesterday)'

### 3.3.4.4 Distant past

The morpheme *=yamɨ(t)*, translated by Zingg (1998: 12) as 'not long ago', is analyzed by Tallman & Stout (2016) as indicating "one week or more ago, but not more than one year". However, its meaning can be extended to cover the distant past 2 time lapse. Note that *=yamɨ(t)* is formally almost identical to the distant past markers in Kashinawa and Yaminawa. (3.3.2 and 3.3.3).

57.  *rɨso=yamɨ=kɨ*
     die=REC.PST=DEC.PST
     '(he/she) died (not long ago)' (Zingg 1998: 12)

### 3.3.4.5 Remote past

The remote past *=nɨ* codes events that are temporally further removed from the utterance time than those marked by *=yamɨ(t)*, ranging from about a year ago to the mythical time. This morpheme displays discourse perseverance; i.e., "it is repeated redundantly throughout remote past discourse on every clause that involves verbal predication" (Tallman 2018: 766). Ex. (58) belongs to a traditional narrative.

58.  *ʧani-ʃina=nɨ=kɨ,*                        *ha=kɨ      ʧani=nɨ=kɨ*
     speak-all.night=REM.PST=DECL.PST   3=DAT      speak=REM.PST=DECL.PST
     'They talked all night long, (the Tucunaré, a kind of fish) spoke to him. (Córdoba; Valenzuela & Villar 2011: 62, Pakawara[37] text, line 17)

---

[36] This classification is based on Tallman & Stout's (2016) analysis.
[37] Chakobo and Pakawara are closely related dialects of the same language.

Córdova et al. (2011) show that some tense markers may occur separately from the verb stem in Chakobo (which may be revealing of their recent grammaticalization, see section 6). In the next example the intransitive pro-verb *i-* and the remote past are interrupted by the subject noun phrase (see also ex. (84)).

59.  …*i       tsi      ki?a                 Mabokoriwa=**ní**=kɨ.*
  AUX.I  SPC  REP.EV  Mabokoriwa=REM.PST=DECL.PST
  'Mabokoriwa told him.' (Pakawara, Córdoba, Valenzuela & Villar 2011: 42)

### 3.3.5 Marubo (Marubo-Katukina Sub-Branch)

So far, five overt graded tense markers have been identified in Marubo.[38] One of them codes a future category, while the remaining ones distinguish degrees of remoteness in the past. There are apparently two forms corresponding to the distant past, *-mɨtá* and *-yãta*; more work is needed to unveil the semantic/pragmatic differences between them. As in other Pano languages, the present tense is coded by an aspectual incompletive marker and the immediate past by the completive counterpart.[39]

### 3.3.5.1 Future

In Marubo, *-katsai* or *-katsa*[40] indicates immediate or remote future (Costa 1998: 76). This marker may be analyzed as consisting of *-kats(a)* 'desiderative/future' + an inflectional suffix.[41] Kennel Jr. (1978) refers to *-katsai* as 'desiderative' and 'interrogative future'. Nevertheless, in our data this morpheme occurs in declarative expressions that do not require a desiderative interpretation.[42]

60.  *şaßá-ma       ɨã          nami           pi-**katsai***
  day-NEG  1sg.ERG  meat:ABS  eat-FUT
  'Tomorrow, I will eat meat.' (Severo Dionisio Tama Marúbo, p. c. 2016)

### 3.3.5.2 Recent past

This category, marked by *-ßai*, corresponds to an interval that spans from one day to a few months before the moment of utterance. This is shown in (61) and (62).

61.  *şaßá-ma       awá     nami         ɨ̃      pi-**ßai***
  day-NEG  tapir  meat:ABS  1SG  eat-REC.PST
  'Yesterday I ate tapir meat.' (Severo Dionisio Tama Marúbo, p. c. 2016)

---

[38] We do not discuss the suffix *-ai,* analyzed by Costa (1998: 1974) as indicating 'present/immediate past,' since it is not clear that it has a basic tense meaning.

[39] Costa (1998: 76-77) claims that there is an interaction between tense-aspect-modality and ergativity in Marubo. As for ergative splits supposedly involving tense, the author discusses the markers *-mis-ka,* and *-ya.* Nevertheless, we do not analyze these morphemes as having a basic temporal meaning and thus do not include them in this work.

[40] According to Smith (2021, 90), *-katsa* is used when the root has an even number of syllables while *-katsai* is selected with roots with an odd number of syllables.

[41] The portion *-kats* or *-katsa* is cognate with the desiderative morpheme found in other Pano languages (Oliveira 2014: 428, cognate set 173; Valenzuela & Zariquiey 2015).

[42] Smith (2021) analyzes *-katsi* as having a prospective value, while the desiderative meaning is expressed with *-katsi* + auxiliary verb (Smith, p.c., 2022). This analysis is partially in accordance with Kennel Jr. (1978) who claims that the desiderative is expressed by *-katsi* + intransitive auxiliary verb.

62.     *uşɨ*    *wɨstí-ka-sɨ*          *taßa-ki*         *awá nami*    *ɨ̃*
       moon  one-EX.FOC-ASS.FOC[43]     pass-S/A>A.SIM    tapir meat:ABS  1SG
       *pi-**ßai***
       eat-REC.PST
       'One month ago, I ate tapir meat' (Severo Dionisio Tama Marúbo, p. c. 2016)

### 3.3.5.3 Distant past 1

The morpheme *-ʃĩã ~ -ʃina* marks distant past 1, which spans from one year to several years ago. This marker is cognate with the Kashinawa recent past and it even presents a similar allomorphic pattern (see 3.3.2.3).

63.     *ßari taßa-ki-**ʃina**-itũ*         *awá*    *nami*  *ɨ̃*     *pi-**ʃĩã***
       sun  pass-CMPL-DIST.PST.1-?     tapir   meat  1SG    eat-DIST.PST.1
       'Last year, I ate tapir meat.' (Severo Dionisio Tama Marúbo, p. c. 2016)

The morpheme *-ʃĩã ~ -ʃina* has also been attested in a context where an individual who is twenty years of age talks about her childhood.

### 3.3.5.4 Distant past 2

In our data the distant past 2 is coded by three different forms and, at present, we are not able to account for their functional differences. The most frequently used marker is *-mɨtá*, but *-yãta* and *-pawa ~ -pau* are also attested. Clearly, *-yãta* is cognate with the distant past 1 markers of Shipibo-Konibo (3.3.1.4) and Kashibo-Kakataibo (3.2.1.3). As for *-pawa ~ -pau*, it is most probably cognate with a habitual marker found in sister languages (see 3.3.3.2.5., 3.3.1.6.), with the difference that a verb stem taking *-pawa ~ -pau* does not require additional verbal inflection in Marubo (see ex. (66)). This morpheme also maintains its possible diachronic aspectual meaning which was interpreted by Kennel Jr. (1978) as "continuous" and by Smith (2021) as "habitual". The distant past 2 morphemes were used when narrating myths or past events that, though not directly witnessed by the speaker, are part of Marubo history and thus considered general knowledge. The suffixes *-mɨtá* and *-yãta* were also employed by young adult speakers when talking about their childhood. The following pair of examples illustrate the use of *-mɨtá* in expressions referring to mythical times and the speaker's childhood.

64.     *Ãsini*        *Marubo-rasĩ*       *şɨki*       *inã-**mɨtá***
       Mutum:ERG   Marubo-PL:ABS     corn:ABS     give-DIST.PST2
       'Mutum (a kind of bird) gave us the corn.' (Severo Dionisio Tama Marúbo, p. c. 2016)

65.     *ia*           *ßakɨ-şta-tiã*      *cruzeiro*    *namã*  *ɨ̃*
       1SG.ABS      child-DIM-TEMP     Cruzeiro    LOC  1SG
       *ka-tã-**mɨtá***
       go-do.and.return-DIST.PST2
       'When I was a child, I went to Cruzeiro.' (Severo Dionisio Tama Marúbo, p. c. 2016)

---

[43] This analyze is based in Smith (p. c.), in which he recognizes different kinds of focus in Marubo.

In the example below, *-pau* has distant past 2 and habitual values. Note also that we are dealing with a pluralized verb which could be a former nominalized construction, as indicated by the presence of the plural *-ßo* (which only attaches to nominals in sister languages).

66.  *ßɨɨßo-tiã*    *marußo-rasĩ*    *şunka-pá*    *iso*
    before-TEMP    Marubo-PL:ABS    blowgun-INST    spider.monkey:ABS
    *tɨka-**pau**-ßo*
    kill-DIST.PST2-PL
    'In the old times, the Marubo killed spider monkeys with blowgun.' (Severo Dionisio Tama Marubo, p. c. 2016)

## 3.3.5.5 Remote past

The morpheme *-ti* corresponds to the most distant past category. In our data it indicates mythical time, but as shown above *-mɨtá* may also fulfill this function.

67.  *şuma*    *wɨtsã*    *marußo-rasĩ*    *kampu*    *ɨnɨ-şu-**ti***
    Shuma    wɨtsa:ERG    Marubo-PL:ABS    *kampu*:ABS    leave-BEN-REM.PST
    'Shuma Wetsa (mythical hero) left *kampu*[44] to the Marubo.' (Severo Dionisio Tama Marubo, p. c. 2016)

Like Matis (3.1.1.3), Marubo does not allow tense markers to co-occur with the negative in the same verb. In (68) and (69) below the main verb takes the negative *-ma*, while the tense markers attach to the intransitive auxiliary. Note also that although the main verbs are transitive, the subject NP receives absolutive rather than ergative marking. This split from the Marubo ergative pattern is associated to negation and impossibility (Costa 1998: 80), and may involve nominalization diachronically.

68.  *ia*    *mansɨn*    *pakɨ-**ma***    *i-**katsai***
    1SG.ABS    bowl:ABS    throw-NEG    AUX.I-FUT
    'I will not throw the bowl.' (Costa 1998: 80)

69.  *awá*    *nami*    *ia*    *pia-**ma***    *i-**ʃiã***
    tapir    meat:ABS    1SG.ABS    comer-NEG    AUX.I-REC.PST
    'I did not eat tapir meat.' (Severo Dionisio Tama Marúbo, p. c. 2016)

## 4. Remarks on graded tense categories in Pano

In the preceding section it has been shown that Pano languages possess highly elaborate graded tense systems with 3 to 8 (or possibly more) distinct time intervals. According to one analysis, Yaminawa would have the most elaborate system (with 9 morphologically marked periods of remoteness, including 3 definite future morphemes). Shipibo-Konibo also deserves special attention since it features 5 past and 1 future morphologically expressed grades, in addition to the unmarked present (Valenzuela 2003: section 7.8). This paper focuses on time intervals expressed by overt morphemes having tense as their basic meaning; however, the Pano tense systems are more complex: languages may resort to zero marking in order to code present or non-past, recruit various aspect and modality morphemes to obtain a tense reading, and develop specialized periphrastic constructions that have tense as (part of) their meaning.

---

[44] *Kampu* is the name of a frog used by the Marubo as vaccine.

Table 4 presents the number of remoteness distinctions morphologically expressed in each selected language considering, incrementally, a) grades within the past, and b) grades within the future. Recall that a language may feature more than one morpheme for the same time lapse as attested, for example, in Shipibo-Konibo and Kashibo-Kakataibo, where two distant past 1 suffixes differ in terms of aspect (see 3.3.1.4 and 3.2.1.3).

**Table 4**. Number of graded temporal lapses in Pano languages

| Tense Categories | Matis | Matses | Kashibo-Kakataibo | Shipibo-Konibo | Kashinawa | Yaminawa | Chakobo | Marubo |
|---|---|---|---|---|---|---|---|---|
| Past | 3 | 3 | 4 | 5 | 5 | 5 | 3 | 4 |
| Future | -- | -- | -- | 1 | 1 | 3 | 2 | 1 |
| Total | 3 | 3 | 4 | 6 | 6 | 8 | 5 | 5 |

In agreement with Frawley (1992), we observe that the Pano graded temporal lapses located close to the utterance time tend to be more precise and cover a relatively shorter time period, while distantly located ones lack a clear cut-off point and cover a larger time span. There is also overlap of certain intervals (such as recent past and distant past 1 in Kashinawa, 3.3.2, and distant past 2 and remote past in Shipibo-Konibo, 3.3.1). Overlaps are a key notion in Cable's (2013) definition of time intervals and deserve to be explored in future works (see footnote 10). In addition, the flexibility of the remote past is central in Botne's (2013) framework, who views this category as a special kind of past that subsumes other past tenses. A similar observation has not been made for any Pano language.

Pano languages allow speakers flexibility in selecting certain tense markers. In some languages (Chakobo, Shipibo-Konibo, Kashinawa, Yaminawa) it is possible to employ either the distant past or the remote past in describing the same or contemporaneous events (see ex. 27 in 3.3.1.6.). Faust & Loos (2002: 119) state that in Yaminawa the choice of tense markers may be associated with the speaker's point of view. For example, a speaker could employ the immediate past to refer to an event that happened two or three years ago when comparing it with an event that took place a long time ago. The opposite situation is described by Tallman (2018: 773-774), who reports that a Chakobo speaker may use the remote past *=ní* in reference to an event that happened only a month ago. In selecting *=ní* (rather than the distant past *=yamɨ(t)*) the speaker seeks to emphasize that he considers a month to be a long time for the type of event being described. This is illustrated in ex. (70).

70. **wisti   oʂi**     *tsi*   *ʂo*   *ɨ*     *pabɨ=**ni**=na*
    one     month    P5    DEC   1SG   dance=NMLZ:REM=EPEN
    'It was one month since I danced.'
    Speaker comment: It's been a long time, one month ago that I stopped dancing. (Tallman 2018: 774).

In some cases, a speaker may switch tenses to code discourse functions such as highlighting, contrasting, or setting off discourse portions (Lord, ms.). Valenzuela (2015: 46-47) refers to the alternate use of two past forms in Shipibo-Konibo, periphrastic and synthetic, probably to signal foregrounding and backgrounding information, respectively. The discourse-pragmatic motivations involved in the selection of graded tense markers is a most promising area for future research.

Cultural practices may also determine the selection of a given tense marker. This type of motivation was raised in discussing the Matses 'remote past experiential' suffix. Generally, this morpheme is only used by old speakers. However, when a young speaker needs to talk

about a deceased, s/he could employ this marker as a discourse strategy to distance the event, given that in Matses society it is taboo to mention the dead (Fleck 2003).

## 5. Interactions between tense markers and other categories

Departing from the descriptions offered in 3, this section discusses the various ways in which the Pano tense markers interact with aspect, negation, plurality, and evidentiality.

### 5.1 Interactions between tense and aspect

Pano languages posses a small set of probably cognate morphemes that are generally analyzed as expressing 'perfective' *vs* 'imperfective' or 'completive' *vs* 'incompletive' aspect. Some of these markers may play a nominalizing function.[45] Table 5 below presents these morphemes in different languages.

**Table 5**. Probable cognate aspectual markers

|  | Matis | Matses | Kashibo-Kakataibo | Shipibo-Konibo | Marubo | Kaxinawa | Yaminawa | Chacobo |
|---|---|---|---|---|---|---|---|---|
| IPFV | *-e* | *-e* | *-i* | *-i, -ai* | *-ai* | *-i ~ -ai* | *-i* | *=ʔai* |
| PFV | *-a* | *-a* | *-a* | *-a* | *-ya* | *-a* | *-a* | *ʔá, =ʔá* |

The markers in Table 5 above are not included in this work given that they do not code graded tense. Nonetheless, they often yield tense interpretations that are compatible with their aspectual value: perfective/completive => past; imperfective/incompletive => present, future. The next Shipibo-Konibo sentence shows the aspectual values of *-ai* 'incompletive' and *-a* 'completive participle' in this language.

**Shipibo-Konibo**

71.  *nato    honi=ra          iʃto=ma=ʃoko          ni-ai*
     this     man:ABS=DIR.EV   fast=NEG=ATTEN        walk-INC
     *rokotoro=n          ʂati-a              ik-aʂ*
     doctor=ERG           cut-CMPL.PP2        AUX.I-PREV.S/A>S
     'This man walks slowly because the doctor operated him.'
     (Loriot; Lauriaut; Day 1993: 292)

The following example illustrates the use of the imperfective suffix *-i* in Kashibo-Kakataibo, which yields simple present, present progressive, or future interpretations.

**Kashibo-Kakataibo**

72.  *ɨ=ʂ          ka=na          Lima=nu          kwan-i-n*
     1SG=S         NAR=1SG        Lima-DIR         go-IPFV-1/2
     'I go to Lima.' / 'I am going to Lima.' / 'I will go to Lima.' (Zariquiey 2018: 343)

---

[45] Some markers require more specification. Shipibo-Konibo *-ai* and *-a* have been called, respectively, 'incompletive participle' and 'completive participle;' they also occur on interrogative clauses that are considered nominalized (Valenzuela 2003: section 8.4 and chapter 10; see also ex. 71). In her work on Marubo, Costa (1998) glosses *-ai* as 'present, immediate past,' although other morphemes are given the same gloss, while *-ya* functions as resultative. According to Tallman (2018), Chakobo has *=ʔai* 'imperfective nominalization,' *ʔa* 'past nominalization', and *=ʔá* 'interrogative past.' Further description of the languages will surely add new morphemes to this table and/or require modification of the analyses.

In Kashibo-Kakataibo, Shpibo-Knibo, and Chakobo the morphemes in Table 5 above cooccur with graded tense markers. This is illustrated by the next Kashibo-Kakataibo sentence where the finite verb takes both -*pun* 'immediate past' and -*i* 'imperfective' aspect.

**Kashibo-Kakataibo**

73. *bukun-bɨtsin-i*           *kana*           *u-ru-**pun-i**-n*
     gather-coming.TR-S/A>S         NAR.1SG       come-up-IMM.PST-IPFV-1/2
     'After gathering (it), I came up the river.' (Zariquiey 2018: 323)

Certain aspectual morphemes show tense restrictions. In Kashibo-Kakataibo the durative -*inɨ* only occurs with the remote past -*akɨ* (Zariquiey 2018: 337). Similarly, in Kashinawa the habitual -*pau*/-*pao* exclusively combines with the remote past -*ni* (Kashinawa, p.c. 2012). In Shipibo-Konibo, in contrast, the habitual -*pao* can appear with the remote past -*ni* and the distant past 2 -*katit* (Valenzuela 2003: 288-289). As shown in examples (22) and (23), in Shipibo-Konibo the distant past 1 can be coded by two different morphemes whose meanings differ in aspect. Also, in Kashibo-Kakataibo there are two morphemes that indicate habitual aspect but are used with different tenses: -*rabɨ* combines with all non-remote tenses and -*kin* ~ -*kian* with the remote past (Zariquiey 2018: 337).

**5.2 Interactions between tense-aspect markers and negation**

Some Pano languages exhibit restrictions in regards the co-occurrence of negative polarity markers and certain tense or aspect morphemes. To this day there is no study focusing on the interaction of these morphemes in the family.

In Shipibo-Konibo the negative -*yama* co-occurs in the verb with the different graded tense morphemes. In the examples below, -*yama* precedes the immediate past -*wan* and the distant past 2 -*katit*. The sentence in (75) was given earlier as (24).

74. *oro-kin-**yama-wan**-kan-kɨ.*
     clear.of.weed-ASSOC-NEG-IMM.PST-PL-CMPL
     '(They) did not help (her/him) clear the garden of weed earlier today.'
     (Valenzuela 2003: 141)

75. *moatian*     *nawabaon*     *tʃopa*     *non*
     *moatian*     *nawa=baon*     *tʃopa*     *no=n*
     long.ago     non.Indian=PL:GEN     clothes:ABS     1PL-ERG
     *ßiamakatitai.*
     *ßi-**yama-katit**-ai*
     get-NEG-DIST.PST2-INC
     'Long time ago we did not buy clothes in the stores.' (Valenzuela 2003: 288)

A different situation is found in Matis, where negation and tense cannot cooccur in the same verb, and hence the tense morpheme must attach to an accompanying auxiliary. This is shown in the example below, which was given earlier as (5).

76. *kamun-ɨn*     *ɨşma-Ø*     *ak-**ama***     *ik-bonda-ş*
     jaguar-ERG     Ɨşma-ABS     kill-PST.NEG     AUX-DIST.PST-3.EXP
     'The jaguar did not kill Ɨşma (man's proper name).' (Ferreira 2005: 148)

In addition, as described by Ferreira (2005) Matis has two negative morphemes whose distribution depends on a tense distinction. The negative marker for the past tense is *-ama* (illustrated in (76) immediately above), while its non-past counterpart is *-emen,* as shown in the next example.

77.　*nɨbi　mibi　　　　nun-emen*
　　　today　2SG.ABS　　　swim-NEG.NPST
　　　'Today you are not going to swim.' (Ferreira 2005: 147)

Note that the non-past negative *-emen* features an initial /e/ which is probably related to the 'imperfective' *-i* in sister languages (see Table 5). In turn, the past negative *-ama* begins with the vowel /a/ which corresponds to the 'perfective.' Given that (76) and (77) contain perfective and imperfective expressions, respectively, it may be that the distribution of the negative forms depends on aspect rather than tense. This point calls for detailed examination.

Like Matis, Marubo requires that certain tense markers attach to an auxiliary verb when the lexical verb is negated, as shown in (78). Note that the ergative-absolutive case-marking pattern typical of Marubo does not apply in this construction (the absolutive *ia* is selected instead of the ergative *ɨan*). According to Costa (1998: 80), this type of ergativity split is associated to negation and impossibility. Note also the presence of the intransitive auxiliary *i-*.

78.　*ia　　mansɨn　　　pakɨ́-ma　　i-katsai*
　　　1SG　bowl　　　　throw-NEG　　AUX.I-FUT
　　　'I will not throw the bowl.' (Costa 1998: 80)

In 3.3.5.5 it was suggested that negative constructions like the one in (78) above may involve nominalization diachronically.

## 5.3 Interactions between tense markers and plural number

Another interesting phenomenon, so far confirmed only in Kashinawa,[46] concerns the relationship between tense markers and the expression of plural number. In Kashinawa only the immediate past *-ʂu* co-occurs with the plural *-kan*, while all other past tense markers only combine with the plural *-bu*. The latter also marks plurality with nouns and adjectives (Montag 2008: 38, 50). In addition, *-kan* and *-bu* do not occupy the same position in the verb; the former precedes the tense morpheme while the latter follows it, as can be observed when comparing the verb forms in (79).

79.　a. *pi-kan-ʂu-ki*
　　　　eat-PL-IMM.PST-AFFIRM

　　　b. *pi-ʃian-bu-ki*
　　　　eat-REC.PST-PL-AFFIRM

　　　c. *pi-ima-bu-ki*
　　　　eat-DIST.PST1-PL-AFFIRM

---

[46] And maybe also present in Marubo and other languages. However, this issue requires further research.

d. *pi-yama-**bu**-ki*
   eat-DIST.PST2-PL-AFFIRM

e. *pi-ni-**bu**-ki*
   eat-REM.PST-PL-AFFIRM

f. *pi-pau-ni-**bu**-ki*
   eat-HAB-REM.PST-PL-AFFIRM
   'They did not eat'. (Kaxinawá, p. c. 2012)

The forms pluralized by *-bu* can combine with the auxiliaries *ik*, intransitive, and *ak*, transitive (Montag 2008: 38). It seems to be the case that these forms are diachronically nominalized. This proposal is compatible with the fact that in Shipibo-Konibo and AmahuacaAmahuaca, the suffix *-kan* is exclusively a verbal plural, whereas *-bo/-wo* is its non-verbal counterpart (Valenzuela 2003: sections 5.4 and 6.2.2, chapter 7; Valenzuela; Zariquiey & Angulo, in progress). Also, recall that in Kashinawa *-bu* (but not *-kan*) marks plurality with nouns and adjectives. In Yaminawa the remote past tense marker *-di* co-occurs with the plural *=wu,* which is also found on nominals (see examples (52) and (53)).

## 5.4 Tense and evidentiality

As shown in 3.1.2, Matses past tense expressions obligatorily carry one of three possible evidential values: direct experience, inference, or conjecture. This was illustrated by two sentences bearing the 'recent past inferential' *-ak* and the 'recent past conjecture' *-aʂ*. Examples (6a) and (6b) are repeated below for convenience.

80a.  *nɨnɨchokid-n*        *ak-**ak***
      shaman-ERG          kill-REC.PST.INFER
      'A shaman (must have) killed him.' (for example, if the speaker sees a corpse with no sign of a natural cause of death) (Fleck 2007: 598)

80b.  *nɨnɨchokid-n*        *ak-**aʂ***
      shaman-ERG          kill-REC.PST.CONJ
      'A shaman (must have) killed him.' (for example, if the speaker had not yet seen the corpse) (Fleck 2007: 598)

The mandatory marking of evidentiality when expressing a past event appears to be a characteristic of Northern Pano languages. In fact, Ferreira (2005: 123-125) also reports such a requirement for Matis, but only when a third person subject is involved. Unlike Fleck (2003), Ferreira (2005) analyzes endings such as *-aʂ* and *-ak* in the pair of examples immediately above as sequences of two separate suffixes, i.e. *-a-ʂ* and *-a-k*, coding tense and evidentiality respectively.

## 6. On the diachronic sources of the Pano graded tense morphemes

The graded tense markers employed in the languages considered in the present study are summarized in Table 6.

Table 6. Tense Markers in the Languages Selected[47]

| | NORTHERN | | WESTERN | CENTRAL-SOUTHERN | | | | |
|---|---|---|---|---|---|---|---|---|
| | MT | MTS | KK | SH-K | KASH | YAM | CH | MAR |
| 'Non-proximate future' | -- | -- | -- | -- | -ṣã ~ -ṣan | -nũpukui -daka | =ṣɨ | -katsai -katsa |
| 'Proximate future' | -- | -- | -- | -ya(t) | -- | -waidaka | =ʃari | -- |
| 'Immediate past' | -- | -- -o | -pun | -wan | -ṣu | -wa | -- | -- |
| 'Recent past' | -bo | -ak -aṣ | -on -iṣan | -iβa(t) | -ʃĩã/ -ʃina | -waiyabia -ita | -ʔita | -βai |
| 'Distant past 1' | -bonda | -onda -nɨdak -nɨdaṣ | -yantan -rabɨ | -yantan -raβɨ | -ima | -yabɨa | -yamɨt | -ʃĩã/-ʃina |
| 'Distant past 2' | | | -akɨ | -katit-ai -kato | -yama | -ti | | -mɨta -yãta -pawa |
| 'Remote past' | -anpi | -denne -anpik -nɨdanpik | | -ni | -ni | -di | -ni | -ti |

As can be observed in Table 6 above, certain tense markers found in different languages show great resemblance in form and meaning and, thus, are most probably cognate. Consider the following sets.

I. Kashinawa -*yama,* Yaminawa -*yabɨa* (Sharanawa -*yabɨa* ~ -*yaba*)*,* Chakobo -*yamɨ(t)*[48]

II. Shipibo-Konibo -*ni*, Kashinawa -*ni,* Yaminawa/Sharanawa -*di/-ni,* Chakobo -*ní*

Time adverbs are one of the principal sources of temporal distance morphology (Bybee; Perkins; & Pagliuca 1994: 101-103). The markers in (I) show the following regular phonetic correspondences: Kashinawa *m*, Yaminawa/Sharanawa *b*, Chakobo *m*, and Marubo *m* (Oliveira 2014: 211-218). They might have diachronically derived from *\*yamɨ [CV]* '(at) night, dark' (Shell 1975: 189, set 494; but see footnote 50 for somewhat different reconstruction proposals), which has reflexes in Shipibo-Konibo, Kashinawa, Yaminawa/Sharanawa, and other languages of the family. Similarly, the etymology of the distant past 1 suffix -*yantan*, attested in Shipibo-Konibo, Kashibo-Kakataibo, and Marubo is most probably derived from the item reconstructed by Shell as *\*yãta* '(in the) late afternoon, evening' (1975: 189, set 497; but *\*yãtan* in Oliveira (2014)). However, it is also possible that these graded tense markers originated in two related intransitive verbs that are realized in Shipibo-Konibo as *yamɨt*- 'be(come) night' and *yantan*- 'be(come) late in the day' (Loriot; Lauriault & Day 1993). A similar case is represented by the Chakobo crasternal (tomorrow future) marker, which might have derived from the intransitive verb *ʃari*- 'be(come) the next day' (Zingg 1998: 250).

The 'remote past' markers -*ni, -ní*, -*di,* shown in II, are (almost) identical to an intransitive verb meaning 'walk' or 'go' in some Pano languages but 'stand' in others (Shell 1975: 157; Oliveira 2014). While deriving a past tense marker from 'stand' seems unlikely, a

---

[47] In this table: Mt: Matis; Mts: Matses; KK: Kashibo-Kakataibo; SH-K: Shipibo-Konibo; Kash: Kashinawa; Yam: Yaminawa; Ch: Chakobo; Mar: Marubo.
[48] The Marubo tense marker -*mitá* might also be cognate. In fact, Valenzuela & Zariquiey (2015) reconstruct the Proto-Pano form *\*ya-mɨtV* 'dark, night', while Oliveira (2014) reconstructs *\*yamɨt*.

movement verb like 'walk' or 'go' is a plausible source (see also the comments on *-bo* and *-wan* below). The Matses sentence in (7) contains the verb *nid-* 'go.'

Most certainly, the Shipibo-Konibo 'immediate past' suffix *-wan* originated in a formally (almost) identical associated motion suffix found in the following sister languages: Kapanawa (*-wan* 'come and leave after a short time', Loos & Loos 2003: 168), Matses (*-wan* 'come (and go back)', Fleck 2003: 365, 368), Sharanawa (*-wa(n)* 'come and go back', Lord ms., p. 18), Yaminawa (*-fa(n)* ' come, do, and go back', Faust & Loos 2002: 134; *-wad* 'come do and go', Neely 2019: 282), and possibly others.[49] Consider the following Sharanawa sentence.

81.  *tʃoʃpɨn       ano      non              ikano    maikiri-noa-ʂɨ*
     Choshpen      LOC      1PL.NOM          lived    downriver-ABL-S
     *Yaminawa-fo          fɨ-**wan**-i-fo.*
     Yaminawa-PL           come.PL-come.and.go.back-IPFV-PL
     'When we lived on the Choshpen, Yaminawas came from downriver and then went back.' (Lord ms., p. 18).

In Shipibo-Konibo, *-wan* exclusively bears a hodiernal (today) past meaning, which suggests that a former associated motion morpheme completed a historical change into a graded tense marker. The Yaminawa 'recent past 1' suffix *-wa* 'last night' may have the same origin.

A second Shipibo-Konibo morpheme, the 'proximate future' *-yat,* is formally identical to a verbal suffix found in the closely related Kapanawa: *-yat ~ -yaht* 'in the first hours of the morning' (Loos & Loos 2003: 395). In Shipibo-Konibo *-yat* only codes crasternal future.

The Matses 'recent past' suffix *-bo* resembles an andative associated motion marker found in different Pano languages: Shipibo-Konibo *-bo*, Yaminawa *-fo/-wu,* Chakobo *-bona*, Kashibo-Kakataibo *-bu*.[50]

The source of the Kashinawa 'recent past' *-ʃĩ ~ -ʃina* must be a circadian temporal verbal marker signaling that an event takes place 'at night/all night long.' Consider the following data: Shipibo-Konibo *-ʃin* 'at night/all night long,' Yaminawa *-ʃid* 'all night/at night,' Chakobo/Pakawra *-ʃina* 'during the night.' This last suffix can be observed in ex. (58) from Pakawara. Likewise, the suffix *-ßai* is found in Sharanawa and Marubo taking part in the coding of the future and recent past, respectively. In Yaminawa /wai/ is part of the morphemes coding 'yesterday' past and 'tomorrow, a few days from now' future. These morphemes might have derived from another circadian temporal verbal suffix found in several languages: Shipibo-Konibo *-ßait* 'during the day, all day,' Sharanawa *-fai* 'all day,' *Yaminawa -wãĩ* 'all day,' Chakobo *baʔina* 'during the day.' In Matses, *badiad* presents a handful of related meanings: '(during the) day,' 'at dawn,' 'stay up the whole night until dawn,' 'become dawn,' 'wake up at dawn' (Fleck et al. 2012: 39).

The Sharanawa 'distant past 2' marker *-bisi* (or *-misi* in Lord, ms.) most probably involves a habitual (nominalizing) morpheme attested in several Pano languages. In Shipibo-Konibo the relevant morpheme is *=mis*, as in: *riti-* 'kill' > *riti=mis* 'murderer.'

The suffix *-ti* codes 'remote past' in Marubo as well as Yaminawa and the closely related Sharanawa. Several Pano languages have a nominalizing suffix of the form *-ti* which is analyzed as 'instrument nominalizer, infinitive complementizer' (the cognate form in Northern Pano is *-te*). In their account of Yaminawa, Faust & Loos (2002: 96) label this derivational

---

[49] In turn, *-wan* resembles the associated motion suffix *-wanana* 'do.PFV.moving' attested in Takana, a language from the family bearing identical name, spoken in northern Bolivia (Guillaume 2017: 224).

[50] These suffixes derive from the independent verb 'go (pl.), take (somewhere).' Matses has the verbs *buan-* 'take (somewhere)' and *buen-* 'pass taking,' both containing /bu/.

suffix 'instrument, result.' The following example is from Yaminawa: *tsao-* 'sit' > *tsao-ti* 'bench, chair.' See also (11) from Kashibo-Kakataibo and (21) from Shipibo-Konibo, where -*ti* works as complementizer.

Finally, the Marubo 'future' marker -*katsai* clearly involves the desiderative -*kats*. This morpheme has been reconstructed as *-kas/*-katsi by Shell (1975: 141, 174) and Oliveira (2014: 415, 174), but as *-katsa by Valenzuela and Zariquiey (2015). It is well known that verbs of desire or desiderative morphemes are a common source of future tense markers (Bybee et al. 1994: 254-258; Heine & Kuteva 2002: 310-311, among others).

The next Shipibo-Konibo sentence illustrates the use of the desiderative -*kas*, the adverb *yamɨ*, and the associated motion suffix -*bo*. As argued above, cognate morphemes might have given rise to graded tense markers in sister languages.

82.    *Icha*   *yapa*       *ßi-**kas**-kin=ra*        *honi=ßaon*
     much   fish:ABS      get-DES-SIM.S/A>A=DIR.EV   man=PL:ERG
     ***yamɨ***         *tsaka-tsaka-**ßo**-kan-kɨ.*
     at.night       drive-drive-going-PL-PFV
     'Wanting to catch a lot of fish, they drove and drove (the arrows in the water) while going (by canoe) at night.' (Metsá Sani, Javier Ramírez Bardales, p. c. 2018)

Table 7 below summarizes the information on the possible diachronic sources of the graded tense morphemes discussed in this section.

**Table 7**. Some graded tense markers and their probable diachronic sources

| SOURCE MORPHEME TYPE | SOURCE MORPHEME | SOURCE MORPHEME MEANING | INNOVATIVE MEANING |
|---|---|---|---|
| Temporal adverb/ verb stem | *yantan* *yantan-* | 'afternoon' 'be(come) afternoon' | 'Distant past 1' (SH-K) |
| | *yamɨ* *yami(t)-* | 'at night' 'be(come) dark, night' | 'Recent past 3' (YAM) 'Distant past 1' (SHAR) |
| | | | 'Distant past 2' (KK) |
| | | | 'Distant past 1 and 2' (CH) |
| | *ʃari-* | 'be(come) the next day' | 'Proximate future'(CH) |
| Motion (/Position) verb | *ni(t)-* | 'walk, stand' | 'Remote past' (SH-K, YAM/SHAR, KK, CH) |
| | *-ßo* | 'associated motion' < *ßo* 'go (pl.), take somewhere' | 'Recent past' (MT, MTS) |
| Circadian temporal verbal morpheme | *-ʃin(a)* | 'at night, all night long' | 'Recent past' (KASH) |
| | *-ßai(t)* | 'during the day, all day long' | 'Recent past' (MAR) |
| | *-yat* | 'in the first hours of the morning' | 'Proximate future' (SH-K) |
| Modal verbal morpheme | *-mis* | 'habitual' | 'Distant past 2' (YAM, SHAR) |
| | *-kats* | 'desiderative' | 'Future' (MAR) |
| Associated motion verbal morpheme | *-wan* | 'come and do (and go)' | 'Immediate past' |

| | | | (SH-K), possibly 'Recent past 1' (YAM). |
|---|---|---|---|
| Nominalizer morpheme | *-ti* | 'infinitive, resultative' | 'Remote past'/ 'Distant past 2' (MAR, YAM/SHAR) |

In Pano languages there is evidence that (at least) part of the verbal morphology might be the result of relatively recent grammaticalization processes. For instance, in Shipibo-Konibo, when a verb occupies the first position in the clause the second position clitic *=ra* 'direct evidential' occurs inserted in the verb, preceding inflectional morphology like the plural *-kan* and the completive *-kɨ*. The unexpected position of *=ra* suggests that the plural and the completive morphemes may be relatively innovative within the verb complex. Likewise, the Shipibo-Konibo verbal negative *-yama* is clearly derived from the formally identical negative existential verb *yama-* (Valenzuela 2003: 157).[51] Outside the Central-Southern Branch, it is apparent that in Kashibo-Kakataibo and Matses certain personal pronominal forms have developed into verbal cross-referencing subject markers in relatively recent times. Even more radical is the situation in Amahuaca, where possibly all verbal morphology should be analyzed as enclitics (Valenzuela, Zariquiey & Angulo, in progress).

Comparing Neely (2019) and Faust & Loos (2002) provides some suggestive ideas about graded tense grammaticalization processes that seem to be taking place in Yaminawa (section 3.3.3.). For example, Neely analyzes *-nũpukui* as a single morpheme coding "distant future". In contrast, Faust & Loos do not register such a tense morpheme but do record the verb *puku* 'do in the future'. In Chakobo/Pakawra the past tense markers *=yamɨ(t)* and *=ní* may occur separated from the verb (Córdoba; Valenzuela, & Villar 2012). This is shown in the following pair of examples (ex. (84) was given earlier as (59)).

83.  *hatsi*       *yonoko=yama*              *ɨ =yamɨ́(t)=kɨ*
     then          work=NEG                   1SG=DIST.PST=DECL:PST
     'Then I didn't work.' (Tallman 2018: 46)

84.  *i       tsi      kiʔa*         *Mabokoriwa=ní=kɨ*
     AUX.I   SPC      REPORT        Mabokoriwa=REM.PST=DECL:PST
     'Mabokoriwa told him.' (Córdoba; Valenzuela & Villar 2011: 42)

The ability of *=yamɨ(t)* and *=ní* to attach to different types of hosts may be viewed as evidence of an intermediate grammaticalization stage whereby an (erstwhile) verb or adverb has turned into a tense marker while still enjoying certain independence from the verb.

From Table 6 it can be concluded that Matis and Matses exhibit the same temporal distinctions and in each of these categories they probably share cognate morphology. These affinities, alongside the apparent lack of cognancy between (most of) the Matis and Matses markers on the one hand, and those in the remaining languages on the other, support the hypothesis of a separate Northern Branch in the Pano family, whose languages are the most divergent. Furthermore, Shipibo-Konibo, Kashinawa, Chakobo, Yaminawa/Sharanawa, and Marubo share certain cognate graded tense morphology, which is compatible with the claim that they form a more convergent unit within the Pano family to the exclusion of the other

---

[51] This analysis can probably be extended to other Central-Southern languages like Kashinawa, which also features the verbal morpheme *-yama* and the independent form *yama* (Montag 2008: 38, 65, 109).

languages examined.[52] Considering that Kashibo-Kakataibo -*yantan* (and possibly also -*raβi*) might have been borrowed from the dominant neighbor Shipibo-Konibo (3.2.1.3), comparison of graded tense morphology also sets this language aside. Unfortunately, we lack a systematic reconstruction of the Proto-Pano graded tense system, and hence it is not possible to confidently talk about innovations in regards the language clusters.

## 7. Final Remarks

Languages representing the main subdivisions of the Pano family for which enough relevant description is available possess systems of graded tense that allow speakers to more precisely locate an event within the past or the future with respect to a certain reference time point. Although this feature is found in languages from different regions of the world (particularly in Amerindian, Oceanic, Aleut, Bantu, and Caucasian languages), prolific systems distinguishing four or more degrees of remoteness are unusual (Comrie 1985: 83; Frawley 1992: 363; Botne 2012: 555; Dahl & Velupillai 2011). Moreover, after the Niger-Congo languages of Africa, Pano is one of the largest linguistic clusters in the world displaying such elaborate systems. Despite this fact, Pano languages are largely absent from crosslinguistic and theoretical treatments of graded tense. It is our hope that the present work helps change the situation.

The Pano graded tense systems are asymmetrical in that they (generally) display more distinctions in the past than the future; moreover, only the languages from the Central-Southern Branch exhibit dedicated future graded tense markers. Also, the further an interval lies from the present, the less precise its boundaries, and the more extense the temporal space it covers (coinciding with Frawley 1992: 369). It may be the case that morphemes denoting temporally non-adjacent intervals share the same or very similar forms (or grams) (as shown by the Yaminawa/Sharanawa suffixes; see also Botne 2012). Despite significant differences in the periods of remoteness morphologically coded in the languages analyzed, there seems to be a certain level of coherence with regards to the past categories (not so in the future). A particularly interesting finding concerns the different ways in which tense interacts not only with aspect, modality and evidentiality, but also with plural number and negative polarity. The restrictions involving plurality and negation might involve the reanalysis of former nominalized constructions as finite. A detailed synchronic and diachronic account of these types of interactions in the Pano languages is in order.

The present analysis indicates that Proto-Pano might have exhibited a tendency to distinguish degrees of remoteness.[53] Nevertheless, not all the languages share cognate graded tense morphology, and even within the same (sub-)branch considerable differences in the categories coded and/or their formal expression can be observed. This suggests that today Pano languages developed their graded tense systems more or less independently and in a relatively short period of time. At least in one instance, there is convincing evidence that one or more tense suffixes were borrowed from a neighboring sister language (see 3.2.1.3).

This paper also dealt with the diachronic sources of the morphemes discussed. Certain graded tense markers derived from circadian temporal verbal morphemes indicating time of the day or duration, associated motion, habitual aspect, or desiderative modality; others resulted from the grammaticalization of time adverbs, intransitive verbs semantically

---

[52] However, one must take into consideration an observation by Cabral (p. c. 2012) according to which Tapirapé, a language of the Tupí-Guaraní family, preserved tense markers that are not further attested in the branch to which it belongs but appears in other branches not directly linked to Tapirapé.

[53] Furthermore, Valenzuela & Guillaume (2017: 30) list the presence of graded tense systems as a shared feature of the Pano and the Takana language families.

associated to time adverbs, or motion/position intransitive verbs (Bybee et al. 1994 mention some of these possible sources of tense markers).

An important line of enquiry for future research concerns the discourse-pragmatic factors that motivate the selection or switch of graded tense morphemes in the different Pano languages. Some possible factors were mentioned in section 3. In analyzing Cree, Martin (2010) shows that the reported usage of tense markers differs from the actual way speakers employ these devices in text for expressive purposes. The author concludes that "In some way, the choice of a specific past tense in Cree is as much art as it is grammar" (p. 69). A related issue is the frequency with which tense markers occur in the different discourse genres. Thus, in comparing traditional narratives a past tense marker may be ubiquitous in one language (e.g. Chakobo/Pakawara), while in a second language a single token may apply to a long portion of text (e.g., Yaminawa). Moreover, graded tense markers are mandatory in Shipibo-Konibo whereas Kashibo-Kakataibo features optional markers. In Yaminawa, in narrating a stretch of discourse which is under the scope of the 'remote past,' a speaker may switch to a 'recent past' marker to specify that the events in that utterance "took place a few days prior to the other events going on in the (remote past) topic time of the narrative" (Neely 2019: 320). In addition, the selection of a given tense marker may be motivated by socio-cultural pressures (as described for Matses).

The Pano graded tense systems deserve more attention from specialists developing or ascribing to different theoretical frameworks (cf. Botne 2012; Cable 2013). Working within these approaches can raise new, interesting questions to be addressed by descriptive and typological studies. One first attempt is Tallman & Stout (2018), who applied Cable's (2013) general ideas to Chakobo.

## List of Abbreviations

| | |
|---|---|
| 1 | first person |
| 2 | second person |
| 3 | third person |
| A | transitive subject |
| ABS | absolutive |
| AFFIRM | affirmative |
| ALL | allative |
| ASS | assertive |
| ASSOC | associative |
| ATTEN | attenuative |
| AUX | auxiliary |
| AUX.I | intransitive auxiliary |
| AUX.T | transitive auxiliary |
| CMPL | completive |
| COL | collective |
| CONJ | conjecture |
| DECL | declarative |
| DES | desiderative |
| DIM | diminutive |
| DIR | directional |
| DIR.EV | direct evidential |
| DIST.PST | distant past |
| DS/A/O:SE:TR | different S, A, O, simultaneous events, matrix clause is transitive |
| S/A>S(SE) S/A | of marked clause is coreferential with matrix clause S, simultaneous events |
| -S/A>A.SIM S/A | of marked clause is correfential with matrix clause A, simultaneous events. |
| S/A>A  S/A | of marked clause is coreferential with matrix clause A |
| S/A>S  S/A | of marked clause is coreferential with matrix clause S |
| S/A/O>O S/A/O | of marked clause is coreferential with matrix clause O |
| ERG | ergative |

| | |
|---|---|
| EX | exhaustive |
| EXP | experiential |
| FOC | focus |
| FUT | future |
| GEN | genitive |
| HAB | habitual |
| HAB.PST | habitual past |
| I | intransitive |
| IMM.PST | immediate past |
| INC | incompletive |
| IND | indicative |
| INF | infinitive |
| INFER | inferential |
| INST | instrumental |
| IPFV | imperfective |
| LOC | locative |
| MID | middle |
| MIRAT | mirative |
| NAR | narrative |
| NAR.PST | narrative past |
| NAR.REP | narrative reportative |
| NEG | negative |
| NMLZ | nominalizer |
| NOM | nominative |
| NON.PROX | non-proximal to the addressee |
| NPST | non-past |
| NPST.NEG | non-past negative |
| O | object |
| P5 | position 5 formative |
| PFV | perfective |
| PL | plural |
| POS | possessive |
| PP2 | past/completive participle |
| PRES | present |
| PREV | events in marked clause are previous to matrix clause event |
| PREV.S>A | event in marked clause is previous to event in matrix clause, marked clause S is coreferential with matrix clause A. |
| PREV.DS | event in marked clause is previous to event in matrix clause, subjects are non-coreferential |
| PREV.S/A>S | event in marked clause is previous to event in matrix clause, marked clause S/A and matrix clause S are coreferential |
| PROX.FUT | proximate future |
| PST.NEG | past negative |
| PURP | purposive |
| REC.PST | recent past |
| REP.EV | reportative evidential |
| REPET | repetitive |
| S | intransitive subject |
| SG | singular |
| SIM | simultaneous events |
| SPC | second position clitic |
| TEMP | temporal |
| TR | transitive |
| VBLZ | verbalizer |

## References

Benveniste, Emile (1974). *Problèmes de linguistiques générale II*. Paris: Gallimard, coll. Bibliotèque des Sciences Humaines.

Botne, Robert (2012). Remoteness disctinctions. In Robert I. Binnick (ed.), *The Oxford handbook of tense and aspect,* pp. 536-562.Oxford: Oxford University Press.

Bybee, Joan; Perkins, Revere; Pagliuca, William (1994). *The evolution of grammar. Tense, aspect, and modality in the languages of the world.* Chicago: The University of Chicago Press.

Cable, Seth (2013). Beyond the past, present, and future: Towards the semantics of 'graded tense' in Gĩkũyũ. *Natural language semantics* 21(3): 219-276.

Cabral, Rodrigues; Kaxinawá, Oliveira e de Paula. Avaliação de algumas mudanças na família Páno. *Comunicação apresentada na XXV Reunião Anual da ANPOLL.*

Camargo, Eliane (1991). *Phonologie, morphologie et syntaxe : étude descriptive de la langue caxinaua (Pano)* (Tese de doutorado). Paris: Univ. Paris IV.

Chung, Sandra; Timberlake, Alan (1985). Tense, aspect and mood. In Timothy Shopen (ed.), *Language typology and syntactic description,* vol.3, *Grammatical categories and the Lexicon,* pp. 202-258. Cambridge: Cambridge University Press.

Comrie, Bernard (1985). *Tense.* Cambridge: Cambridge University Press.

Córdoba, Lorena; Villar, Diego; Valenzuela, Pilar (2011). Pano Meridional. In Mily Crevels; Pieter Muysken (eds.), *Las lenguas de Bolivia, Tomo II: Amazonía*. La Paz, Bolivia: Plural Editores. https://www.ru.nl/publish/pages/626765/pano_meridional_crevels_muysken_lenguas_de_bolivia_ii_2012-6.pdf

Dahl, Östen (2008). *The distribution of hodiernality distinctions in the world's languages*. Ms.

Dahl, Östen (1985). *Tense and aspect systems.* Oxford: Blackwell.

Dahl, Östen; Velupillai, Viveka (2011). The past tense. In Matthew S. Dryer; Martin Haspelmath (eds.), *The World Atlas of language structures online*. Munich: Max Planck Digital Library, chapter 66: http://wals.info/chapter/66

d'Ans, Marcel (1973). Reclasificación de las lenguas pano y datos glotocronológicos para la etnohistoria de la Amazonía peruana. *Revista del Museo Nacional*, tomo XXXIX: 349-369.

Erikson, Philipe (1992). Uma singular pluralidade: a etnohistória Pano. In Manuela Carneiro da Cunha (org.), *História dos índios no Brasil*, pp. 239-252. São Paulo: Companhia das Letras. http://etnolinguistica.wdfiles.com/local--files/hist%3Ap239-252/p239-252_Erikson_Uma_singular_pluralidade_a_etno-historia_pano.pdf

Ferreira, Rogério Vicente (2005). *Língua Matís (Pano): uma descrição gramatical* (Doctoral thesis). Campinas, SP: Universidad Estatal de Campinas. https://amerindias.github.io/referencias/fer05gramaticamatis.pdf

Fleck, David W. (2003). *A grammar of Matsés* (Ph.D. dissertation). Rice University. https://scholarship.rice.edu/handle/1911/18526

Fleck, David W. (2007). Evidentiality and double tense in Matsés. *Language* 83(3): 589-614. https://www.jstor.org/stable/40070903

Fleck, David W.; Bëso, Fernando Shoque Uaquí; Huanán, Daniel Manquid Jiménez (2012). *Diccionario matsés-castellano*. Iquitos: Tierra Nueva. http://etnolinguistica.wdfiles.com/local--files/biblio%3Afleck-et-al-2012-diccionario/Fleck%2C%20Uaqui%20%26%20Jim%C3%A9nez%202012%20Diccionario%20Mats%C3%A9s.pdf

Fleischman, Suzanne (1982). *The future in thought and language. Diachronic evidence from Romance.* Cambridge: Cambridge University Press.

Fleischman, Suzanne (1989). Temporal distance: a basic linguistic metaphor. *Studies in Language* 13(1): 1-50. https://www.jbe-platform.com/content/journals/10.1075/sl.13.1.02fle

Frawley, William (1992). *Linguistic semantics*. Hillsdale, NJ: Lawrence Erlbaum Associates, Publishers.

Gonzalez, Carolina (2005). Phonologically-conditioned allomorphy in Panoan: Towards an analysis. *In UCLA Working Papers in Linguistics 11: Papers in Phonology 6:* 39-56.

Hintz, Diane M. (2007). *Past tense forms and their functions in south Conchucos Quechua: time, evidentiality, discourse structure, and affect* (Ph.D. dissertation) University of California, Santa Bárbara. https://scholarship.rice.edu/handle/1911/18526

Heine, Bernd; Kuteva, Tania (2002). *World lexicon of grammaticalization.* Cambridge: Cambridge University Press.

Hopper, Paul J.; Traugott, Elizabeth Closs (1993). *Grammaticalization*. Cambridge: Cambridge University Press. Kaxinawá, Joaquim Paulo de Lima (2011). *Confrontando registros e memórias sobre a língua e a cultura Huni Kuĩ: de Capistrano de Abreu aos dias atuais* (Dissertação de mestrado) Universidade de Brasília. https://repositorio.unb.br/handle/10482/9318

Lord, M.A. (ms.). *Shara grammar*.

Loriot, James; Lauriault, Erwin; Day, Dwight (1993). *Diccionario shipibo-castellano*. Yarinacocha, Pucallpa: Ministerio de Educación del Perú and Instituto Lingüístico de Verano. https://www.sil.org/system/files/reapdata/28/10/70/28107082976791018432371168218236399036/slp31.pdf

Loos, Eugene. E. (1999). Pano. In R. M. W. Dixon; Alexandra Y. Aikhenvald (eds.), *The Amazonian languages,* pp. 227-249. Cambridge: Cambridge University Press.

Loos, Eugene; Loos, Betty (2003). *Diccionario capanahua-castellano*. Segunda edición. Serie Lingüística Peruana 45. Lima: Instituto Lingüístico de Verano. https://repositorio.cultura.gob.pe/bitstream/handle/CULTURA/429/Diccionario_capanahua.pdf?sequence=1&isAllowed=y

Montag, Susan (2008). *Lecciones para el aprendizaje de la gramática pedagógica en Kashinawa.* Lima, Perú: Instituto Lingüístico de Verano. https://www.silbrasil.org.br/resources/archives/29942

Montag, Susan (2004 [1979]). *Lições para a aprendizagem da língua Kaxinawa.* Lima – Peru/Brasil: Ministério de Educación/Instituto Lingüístico de Verano. https://www.silbrasil.org.br/resources/archives/17091

Mueller, Neele (2013). *Tense, aspect, modality, and evidentiality marking in South American Indigenous* Languages. The Netherlands: LOT. https://repository.ubn.ru.nl/bitstream/handle/2066/105825/105825.pdf?sequence=1&isAllowed=y

Neely, Kelsey C. (2018, May 28-June 1)). Temporal categories in Yaminawa morphology. *Paper presented at Amazonicas VII, International colloquium on the phonology and syntax of Amazonian languages*. Baños de Agua Santa, Ecuador.

Neely, Kelsey C. (2019). The linguistic expression of affective stance in Yaminawa (Pano, Peru). (Ph.D. dissertation). University of California, Berkeley. https://escholarship.org/uc/item/4h38f3cg

Shell. Olive A. (1975). *Las lenguas pano y su reconstrucción*. Lima, Perú: Instituto Lingüístico de Verano y Ministerio de Educación del Perú. https://www.sil.org/system/files/reapdata/80/18/40/80184066384721184468038570849953805679/slp12_sample.pdf

Smith, C. Sean (2021). *Aspects of switch reference in Marubo, a Panoan language of Western Amazonia* (M.D. dissertation) Langley: Trinity Western University. https://twu.arcabc.ca/islandora/object/twu:778

Tallman, Adam J. (2018). *A grammar of Chákobo (Pano), a Southern Pano language from the Northern Bolivian Amazon* (Ph.D. dissertation). University of Texas at Austin. https://repositories.lib.utexas.edu/handle/2152/74212

Tallman, Adam J.; Tammi Stout (2018). Tense and temporal remoteness in Chácobo (Pano). In M. Keough; Natalie Weber; Andrei Anghelescu; Sihwei Chen; Erin Guntly; Khia Johnson; Daniel Reisinger; Oksana Tkachman (eds.), *Proceedings of the Workshop on Structure and Constituency in the Languages of the Americas 21*. University of British Columbia Working Papers in Linguistics 46, pp. 210-224. https://lingpapers.sites.olt.ubc.ca/files/2018/01/WSCLA21-16-Tallman_Stout.pdf

Valenzuela, Pilar M. (2015). Desafíos en la descripción de lenguas Pano. In Marília Ferreira (ed.), *Descrição e ensino de línguas.* Proceedings *IV Congreso Internacional de Estudos Linguísticos e Literários na Amazônia*, pp, 35-67. Belém, Pará: Universidade Federal do Pará/Campinas, São Paulo: Ponte Editores.

Valenzuela, Pilar M. (2003). *Transitivity in Shipibo-Konibo grammar* (Ph.D. dissertation). University of Oregon. http://etnolinguistica.wdfiles.com/local--files/tese%3Avalenzuela-2003/valenzuela_2003_transitivity.pdf

Valenzuela, Pilar M.; Sanderson C. S. Oliveira (2012a). *Sharanawa*: Notas de campo. Ms.

Valenzuela, Pilar M.; Sanderson C. S. Oliveira (2012b, May 24-27)). Categorias de tempo em Pano. *Paper presented at the Workshop on tense, aspect and modality in South American Indian languages.* Universidade de Brasília: Laboratório de Línguas Indígenas.

Valenzuela Bismarck, Pilar; Valera Rojas, Agustina (2005). *Koshi Shinanya Ainbo*: el testimonio de una mujer shipiba. Lima, Perú: Universidad Nacional Mayor de San Marcos. https://www.researchgate.net/publication/236634008_Koshi_Shinanya_Ainbo_el_Testimonio_de_una_Mujer_Shipiba

Valenzuela, Pilar M.; Zariquiey, Roberto (2015, September 2-5). Advances in favor of the Pano-Takana hypothesis. *Paper presented at the 48th Annual Meeting of the Societas Linguistica Europeae*. University of Leiden, The Netherlands.

Valenzuela, Pilar M.; Zariquiey, Roberto; Angulo, Candy (in progress). *Amahuaca grammar sketch*.

Valenzuela, Pilar M. B.; Guillaume, Antoine (2017). Estudios sincrónicos y diacrónicos 549 sobre lenguas Pano y Takana: una introducción. *Amerindia* 39(1): 1-49. https://hal.archives-ouvertes.fr/hal-01920483

Zariquiey, Roberto (2011*). A grammar of Kashibo-Kakataibo* (Ph.D. dissertation). La Trobe University. http://arrow.latrobe.edu.au:8080/vital/access/manager/Repository/latrobe:34104;jsessionid=ADEE26DCA8F8ABCEA66FE3BAAA6801C5?f0=sm_creator%3A%22Zariquiey+Biondi%2C+Roberto.%22

Zariquiey, Roberto (2018). *A grammar of Kakataibo*. Berlin: Mouton de Gruyter.

Zariquey, Roberto; Valenzuela, Pilar M. (Forthcoming). Pano. In Lev Michael; Patience Epps (eds.), *Amazonian languages: An international handbook*. Berlin: Mouton de Gruyter.