



FINITENESS IN YUKUNA: TOWARDS A DESCRIPTIVE APPROACH

FINITUDE EM YUKUNA: RUMO A UMA ABORDAGEM DESCRITIVA

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Abstract: This paper introduces a method for describing finiteness designed for field linguists, using data from Yukuna (ISO 693-3:ycn, Glottocode: yucu1253), as outlined in Lemus Serrano's work (2020). The method involves establishing language-specific verbal and nominal prototypes, outlining the typical internal and external features of declarative verbal main clauses and Noun Phrases respectively, and using these feature grids to determine the degree to which individual constructions match or deviate from the prototypes. This methodology was applied to a sample of problematic dependent verb constructions, most of which display synchronically ambiguous nominalizing morphology. Through this systematic approach, the methodology provides a comprehensive overview of finiteness in Yukuna, enabling the ranking of constructions based on their systematically quantified degrees of nominality and verbality. This approach facilitates the identification of trends and constraints in the interaction between verbal and nominal features within clauses and languages, and allows for the testing of cross-linguistic typological hypotheses.

Keywords: Finiteness, Nominalization, Clause-linkage, Arawakan languages, Amazonian languages.

Resumo: Este artigo apresenta um método para descrever a finitude, desenvolvido para linguistas de campo, utilizando dados do Yukuna (ISO 693-3:ycn, Glottocode: yucu1253), conforme descrito em Lemus Serrano (2020). O método envolve o estabelecimento de protótipos verbais e nominais específicos da língua, delineando as características internas e externas típicas das orações principais verbais declarativas e das frases nominais, e utilizando essas grades de características para determinar em que medida construções individuais correspondem ou se desviam desses protótipos. Esta metodologia foi aplicada a uma amostra de construções verbais dependentes problemáticas, a maioria das quais apresenta morfologia nominalizadora ambígua do ponto de vista sincrônico. Por meio dessa abordagem sistemática, o artigo oferece uma visão abrangente da finitude no Yukuna, permitindo a classificação das construções com base nos seus graus sistematicamente quantificados de nominalidade e verbalidade. Essa abordagem facilita a identificação de tendências e restrições na interação entre características verbais e nominais dentro de orações e línguas, além de possibilitar o teste de hipóteses tipológicas translinguísticas.

Palavras-chave: finitude, nominalização, vinculação de orações, Línguas Arawakan, Línguas Amazônicas.

1. INTRODUCTION

This paper explores the structural variations in finiteness across a set of dependent verb constructions in Yukuna, a language characterized by its versatile and pervasive nominalizations. In Lemus Serrano's (2020) dissertation dedicated to an in-depth

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exploration of nominalization in Yukuna, it is shown how nominalization markers, such as *-ka* in examples (1) to (4) below, are found in a multiplicity of functions and constructions beyond the expected uses of nominalizations as referential entities, including the encoding of clause-linkage, and even mood and information structure within main clauses, similarly to what many authors since Noonan (1997) have described for languages of Asia.

- (1) *[kéelé ri=makápo'-ka rikhá] wemí*
 DEM 3SG.M=revive-NZ 3sg.M.PRO price
 ‘the price of his having saved him.’ (ycn0092,96)
- (2) *Eyá [ri=to'-chá-ka=o] kétána...*
 then 3SG.M=lie-PST-NZ=MID during
 ‘then while he was lying down...’ (ycn0186,29)
- (3) *kajrú [na=wajla'-ká].*
 a_lot 3PL=dance-NZ
 ‘a lot is their dancing’ (ycn0059,50)
- (4) *Nu=i'ma-jĩ-ká Kanumá yukú-ná.*
 1SG=tell-FUT-NZ K. story-ALIEN3
 ‘I’m telling Kanuma’s story.’ (ycn0068,1)

Describing the intricate ways in which nominal and verbal features combined and varied across this multiplicity of constructions — often sharing the same nominalization suffixes — is a fundamental task for the description of the Yukuna grammar. This paper suggests that the concept of finiteness can be used as a helpful synchronic descriptive tool for this aim.

This section provides a brief introduction to the Yukuna language, and addresses key terminological issues for the remainder of this paper.

1.1 Yukuna language and speakers

Yukuna (ISO 693-3:ycn, Glottocode: yucul253) is an Arawakan language of the Japurá-Colombia branch (Ramírez 2001), spoken by under one thousand speakers in various communities along the Mirití-Paraná River in North-Western Amazonia (Figure 2).

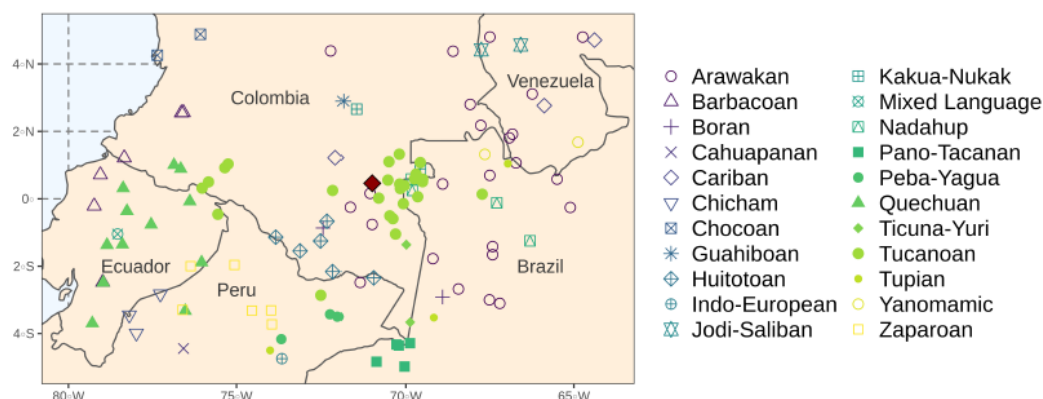


Figure 1 Languages of North-West Amazonia (Hammarström et al. 2020)

Typologically, Yukuna is a nominative-accusative language with a canonical SVO constituent order. The lexical word classes are nouns, verbs, adverbs, adjectives, and postpositions. Core arguments are not case-marked, and obliques are marked with postpositions. The nominative argument of verbs (Subject) is obligatorily encoded in finite clauses either with a bound person index on the verb, or by an overt S NP rigidly placed immediately before the verb. This marking strategy is structurally and morphologically identical to the encoding of possessors of nouns, and arguments of postpositions. The accusative argument of verbs (Object) is neither obligatorily encoded, nor indexed on the verb, and its placement within the clause is flexible.

This study is based on the Yukuna documentation and description project led by the author. All examples come from firsthand corpus of roughly five hours of glossed texts collected in various Yukuna speaking communities since 2015.

1.2 Defining key terms

The term 'finiteness' is central to functional-typological linguistics, yet its definition remains elusive, with a vast array of interpretations in the literature. In this section, we discuss some of the issues found in the literature, and lay out the definitions for the key terminology used in the remainder of this paper.

The concept of (non)finiteness has been strongly questioned by Cristofaro (2003:53–54, 2007), as she argues that the morphological parameters that define finite and nonfinite clauses do not necessarily combine in a consistent manner across nor within languages. Indeed, taking tense inflection as an example of a key feature in defining finiteness, we know that not all languages may have verb forms that inflect for tense, which leads to cross-linguistic inconsistencies. These inconsistencies in the distribution of the individual parameters that are associated with (non)finiteness led Cristofaro to deconstruct this concept, as — she argues —, (non)finiteness does not correspond to an internally coherent phenomenon, and fails to be a cross-linguistically valid grammatical category.

Another difficulty in assessing finiteness is the abundance of terminological choices and analytical approaches for similar phenomena across languages. For instance, Stassen (1985) introduces the term of *deranked* verb forms, referring to any verb form which lacked features from prototypical verbs, and/or showed special marking not allowed in main clause verbs. Koptjevskaja-Tamm (1999:147) further distinguishes infinitives, participles and gerunds (which she classifies as *non-finite*), and subjunctives and dependent verb moods (which she classifies as *deranked* verb forms). She considers non-finite forms to be typically derived, whereas deranked verb forms are inflected. In Yukuna, a central issue is disentangling derived nominalized structures from inflected verbal structures that have become grammaticalized from earlier nominalizations. For this reason, we do not draw an a priori distinction between non-finite and deranked verb forms; instead, for consistency, we use only the term (non)finiteness.

From a structural perspective, there are two principal approaches to finiteness: a binary approach and a scalar approach. In the binary approach, as discussed by Bisang (2007), finiteness is treated as a binary feature defined by the prototype of declarative main verbal clauses. Main clauses are characterized by a set of criteria; those that meet these criteria are classified as finite, while those that do not are considered non-finite, regardless of any formal differences. In the scalar approach, described by Givón (2001), finiteness is seen as a continuum, reflecting the degree to which a construction matches or deviates from the prototype of main declarative verbal clauses. Similarly, Malchukov (2004) analyzes nominalization and verbalization as two simultaneous and mutually

independent scalar processes, each involving changes in the relative degree of nominality or verbality of a given construction. Crucially, he argues that deverbalization (the loss of verbal features) and substantivization (the acquisition of nominal features) are independent processes. That is to say that loss of verbal features does not entail the acquisition of nominal features, and vice-versa. Henceforth, we use the term (non)finiteness in this multi-layered scalar sense.

While this paper does not primarily contribute theoretically to the existing literature on finiteness, it is based on empirical research. The main goal of this study is to propose a methodological framework for a comprehensive assessment of finiteness at the level of individual languages. Our approach emphasizes systematic analysis, enabling identification of tendencies across constructions and facilitating cross-linguistic comparison.

2. METHODS AND DATA

Based on the definition of finiteness as a scalar, multi-layered phenomenon involving gradual and mutually independent changes in the degrees of verbality and nominality of a given construction, we assume each scale can be defined on a language-specific basis. This allows finiteness to be quantified and compared across constructions within a language. Building on this idea, our methodology proposes creating language-specific grids to measure verbality and nominality, which are then consistently applied across a sample of relevant constructions. Once applied, we can reliably rank constructions by their degrees of nominality and verbality, identify language-specific restrictions in the combination of verbal and nominal features, and test cross-linguistic hypotheses about finiteness phenomena. Section 2.1 presents the verbality and nominality prototypes in Yukuna respectively, and Section 2.2 presents the construction sample and dataset used in this study.

The methodology proposed in this paper is based on Lemus Serrano's (2021) talk on nominalization and clause-linkage in Yukuna, and is ultimately based on the approach for the study of nominalization in Lemus Serrano (2020).

2.1 Verbality and Nominality prototypes

In this paper, we define each individual scale as a cumulative grid of prototypical features associated with two basic units: declarative verbal clauses and noun phrases. This methodology is inspired by canonical typology (Brown, Chumakina, and Corbett 2013:3), which enables typologists to account for the range of possible instances of a given phenomenon across languages by using sets of criteria to describe how closely each instance approximates a theoretical canon. Similarly to canonical typology, prototypical verbality and nominality as defined here are ideal concepts, as there are no attested instances of verbal clauses and NPs containing all features from the verbality and nominality scales simultaneously. However, unlike canonical typology, the prototypes used in this methodology are strictly language-specific. To achieve this, we established a comprehensive list of all features associated with the two structural units selected (declarative main verbal clauses and NPs), and turned each feature into a binary absent (0) or present (1) criterion.

Table 1 presents the Yukuna verbality prototype. Note that the prototype is based on blocks of verbal categories rather than individual verbal markers, so that for instance, 'tense' counts as a single feature. This is an *a posteriori* methodological decision based

on the fact that categories are rather internally homogeneous in Yukuna, while in other languages this may **not** be the case.

Domain	Feature
Verb	Tense
	Aspect
	Mood
	Negation
V clause	Subject
	Object
	Postpositional Phrases
	Adverbial modifiers

Table 1 Verbality prototype

Table 2 presents the Yukuna nominality prototype. Clearly, this prototype is much simpler, as nominals have very little inflectional morphology, and NPs have very limited internal complexity. However, note that unlike the verbality prototype, a key aspect of our definition of nominality lies in the complex external syntactic distribution of NPs, as units that occupy a wide range of syntactic slots, from core verbal arguments, oblique arguments marked with postpositions, and even as arguments and predicates in non-verbal clauses.

Domain	Feature
N	Gender/Number
NP	Possessor (Index/NP)
	Demonstratives
	Numerals
	Adnominal modifiers
	External distribution

Table 2 Nominality prototype

Once established, these grids can be applied to any given structure containing nominal and verbal roots to obtain the degree to which these structures match or deviate from the nominality and verbality prototypes, including real attested instances of declarative verbal clauses and noun phrases. For instance, if we apply the verbality prototype to the example of a declarative main verbal clause in (6), we obtain a total score of five features present in this clause (tense, subject and object arguments, postpositional oblique, and adverbial modifiers). Similarly, the clause in (7) also shows a score of five, including verbal negation (*unká...-la*) in addition to tense (*-je* FUT), core arguments (indexed subject and object NP), and an oblique phrase with a postposition (*jló* ‘to’).

- (5) *kéele nó-cha-ri pikhá*
 DEM kill-PST-M 2SG.PRO
 ‘The one who killed you.’ (ycn0183,31)
- (6) *Na=a'-chá piño ri=jló kujnú.*
 3PL=give-PST again 3SG.NF=to cassava
 ‘They gave cassava to him again.’ (ycn0068,153)
- (7) *Unká wáni chí pi=pa'-tá-la-je wa=pirá wa=jló!*
 NEG EMPH EMPH 2SG=return-CAUS-V.NEG-FUT 1PL=pet 1PL=to
 ‘You just won’t return our pet to us!’ (ycn0068,48)

Clearly, applying the verbal and nominal prototypes to individual occurrences of verbal and nominal structures leads to inconsistent results. For instance, the main declarative verbal clause in (8) has a very low verbality score of only two out of eight verbal features, simply because most verbal features are only optionally marked.

- (8) *Nu=jña'á kajírú.*
 1SG=grab manioc
 ‘I grab manioc.’ (ycn0059,10)

This inconsistency arises because the prototypes are defined based on constructions—namely, declarative main verbal clauses and noun phrases—which are abstract categories obtained from a range of real utterances. By implementing prototypes at the level of constructions, we mean that one must first define the range of real-life instances that fall under a given construction type, such as declarative main verbal clauses, and aggregate the features observed across these instances to build the prototype. To assess another construction type—for example, complement clauses—we then check whether each feature from the declarative main verbal clause prototype is present in a substantial subset of all real-life occurrences of complement clauses. Thus, instead of evaluating single utterances in isolation, we evaluate feature presence across entire construction categories. Following this approach, our study evaluates degrees of finiteness in dependent constructions in Yukuna. To do so, we compiled a dataset of all constructions containing a verbal element syntactically dependent on a main predicate. Each construction was coded for the presence or absence of each feature from the verbality and nominality prototypes to obtain a global finiteness score. The dataset and constructions are briefly presented next.

2.2 Construction dataset

The dataset contains a total of 28 constructions, covering all types of syntactically dependent clauses, including relativization, adverbial clauses, and clause-chaining. In line with our bottom-up methodology, we include all instances of verb forms occurring with a main finite predicate, without arbitrarily excluding any subtypes of dependent verb forms. This inclusive approach ensures that the dataset captures the full range of attested structures, especially constructions not traditionally associated with clause-linkage, such as nominalizations and participles. Importantly, separating constructions into categories should be based on empirical patterns revealed by systematic comparison, not imposed beforehand. Thus, any subdivision of constructions is conducted a posteriori, following the results of our analyses.

Another reason to include such markers is that, as stated previously, Yukuna is a language with “versatile nominalizations” (Noonan 1997), where nominalization markers develop a wide range of innovative functions beyond the creation of referential entities. This multifunctionality inevitably results in a multiplicity of constructions sharing the same morpheme. Crucially, it was important to empirically assess whether these different uses of the same marker behave differently with respect to finiteness, in order to tease them apart in a principled way. Consequently, different uses of the same marker in various constructions were counted as distinct entries in the database. For instance, note that the gender markers used in Agent nominalizations also encode relativization as in (9), and same Subject clause-chaining as in (10).

- (9) *iñepú ñáni [to'rt=o ají ké jípa chú=o]....*
 path DIM lie-M=MID PROX like rocks in=MID
 ‘the little path that was above the rocks...’

- (10) *é ri=iphi-cha ami-cha-ri kajú ija i'mi-chá-ká*
 then 3SG.NF=arrive-PST see-PST-M a lot smoke COP-PST-NZ
 ‘Then he arrived (and) saw that there was a lot of smoke.’ (ycn0092,5)

While these two constructions are certainly diachronically related, at a synchronic level they are neither functionally nor structurally identical. Functionally, the clause-chaining construction encodes sequences of events sharing the same subject argument, unlike the relative-clause use of agent clausal nominalizations with G/N markers (Lemus Serrano 2020:332–34). Structurally, they also differ, as the choice of lexical verbs, tense markers, and even gender agreement shows construction-specific restrictions.

After establishing the construction sample, each construction was systematically coded to indicate the presence (1) or absence (0) of features from both the verbality and nominality prototypes, in order to obtain a total finiteness score per construction. This methodology required several arbitrary decisions. For instance, we had to address questions such as whether a feature present only in elicited data should carry the same weight as one found in spontaneous data. Additionally, we considered the significance of features occurring rarely versus those observed frequently. To ensure consistency, our coding conventions specify that a feature is coded as present (1) only if it is unambiguously attested in the spontaneous data corpus. Conversely, the absence of evidence in the spontaneous corpus is interpreted as the absence of the relevant

morphosyntactic feature and is coded as (0). Table 3 presents an excerpt from the coded dataset, showing the first ten constructions and their nominality features.²

ID	Construction	N-GN	NP-Pssr	NP-Dem	NP-Num	NP-Adnom	NP-dist	Ntotal
1	Instrument NMLZ	0	1	1	0	0	1	3
2	Event NMLZ	0	1	1	1	1	1	5
3	Participle	0	0	0	0	0	0	0
4	Agent NMLZ	1	1	1	1	0	1	5
5	SS complement clauses	0	0	0	0	0	1	1
6	Temporal	0	0	0	0	0	1	1
7	SS complement clauses	0	1	0	0	0	1	2
8	Temporal	0	1	0	0	0	1	2
9	Purpose of motion	0	1	0	0	0	0	1
10	Purposive	0	0	0	0	0	0	0

Table 3 Excerpt from the construction dataset

By applying this methodology, it was possible to establish a consistent ranking of constructions from more to least verbal and nominal, and establish correlations in the combination of verbal and nominal features in the language, as developed in §3.

3. RESULTS

In this section, we delve into the core findings of our study, presenting the main results concerning verbality (§3.1) and nominality (§3.2) separately before examining their intricate interplay (§3.3) in the context of the Yukuna language.

3.1 Verbality score

This section explores the variation in the degrees of verbality per construction in the dataset. Figure 2 displays the ranking of constructions per degree of verbality.

² Different entries may share the same label, but not the same ID number, when they are functionally similar but are encoded by different markers.

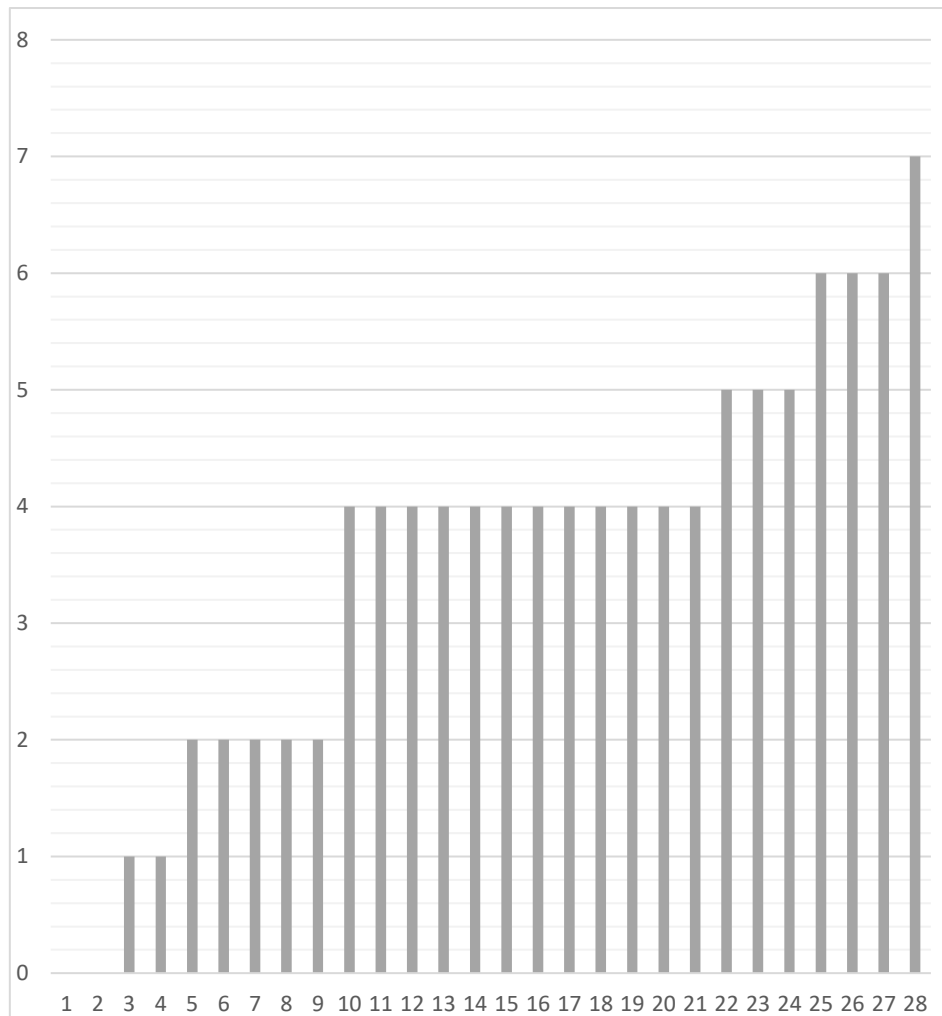


Figure 2 Verbality score per construction (x-axis: construction ID; y-axis: number of verbal features)

First, we note that verblity among constructions is gradual, with groups of constructions displaying no verbal features, to one or two features only, to four features and more. Example (11) illustrates the case of yukuna Agent nominalizations with *-je*, a construction with only one verbal feature, namely, the possibility to combine with oblique arguments marked with postpositions, a feature that is entirely absent from the NP structure in Yukuna.

- (11) *eja'wá e'yowá ja'pá-je-ri*
 world around wander-A.NZ-M
 'traveler' (The one who wanders around the world) (ycn0169,13)

We also identify a group of five constructions, all with a verblity score of two, which scored positively for the presence of adverbial modifiers and postpositional phrases. These features are the most common across all dependent verb forms, and it is likely that constructions with a verblity score of one—such as *-je* A.NZ nominalizations in (11)—also belong to this group. However, more data are needed to confirm this. This is exemplified in (12), which shows a clear instance of a same-subject complement clause encoded with the action nominalizer *-kana* on the dependent verb. Although *-kana* functions as a nominalizer that derives lexical nominalizations, the resulting lexical noun can combine with obliques and adverbial modifiers, unlike underived nouns.

- (12) *Kája ri=keño 'chá [yamú e 'yowá mujúka'-kana majó].*
 Then 3SG.M=start-PST fence within enter-EV.NMLZ here.towards
 'Then it started coming into the fence towards here.' (ycn0108,296)

There is a large group of 12 constructions with a verbality score of four, most of which also have the same two features described before (obliques and adverbs), and additionally scored positively for verbal core argument encoding. Except for one construction, all constructions in this group lack TAM marking as well as verbal negation. Example (13) shows a typical instance of constructions in this group, where the verb displays a clausal structure very similar to finite clauses (subject marking with a person index proclitic, unmarked postposed object), but lacks most inflectional morphology characteristic of fully finite verbs.

- (13) *pi=ímá ri=jló ri=keño '-ré nu=iĩ nakiyána rikhá*
 2SG=tell 3SG.M=to 3SG.M=start-JUS 1SG=name from 3SG.M.PRO
 'tell him to start it (the party) in my name' (ycn0108,251)

Lastly, constructions with a verbality score higher than four typically all share the same four features as the previous ones, and additionally, they show some flexional features of finite verbs (either tense/aspect) or verbal negation, with the highest-ranking construction being complement clauses of perception and cognition verbs (14). In this specific complement clause construction, the verb does not carry any morphology signaling its dependent status, and there are no subordinating conjunctions. Besides for the fact that these dependent clauses lack the possibility to express mood marking, leading to a verbality score of seven out of eight, they are almost identical to finite main verbal clauses.

- (14) *Mékétanajémi ri=amí-cha [kája yáwi to'-chá=o mátámi].*
 later 3SG.M=see-PST already jaguar lie-PST=MID profoundly
 'Later he saw (that) the jaguar was sleeping profoundly.' (ycn0186,52)

As demonstrated so far, although there is considerable variation along the verbality scale, constructions with the same score tend to be homogeneous in their verbal features. Moreover, the verbality gradient reveals a logical order in which verbal features emerge, such that the presence of certain features implies the presence of others. For example, if a construction exhibits verbal negation marking, it invariably also displays finite encoding of subjects and objects; however, the reverse does not hold. This progression reflects an inward movement of features, from more peripheral elements of the clause, such as obliques, to core arguments, and ultimately to verbal inflection at the word level. This pattern leads us to propose the implicational hierarchy shown in Figure 3 for Yukuna.

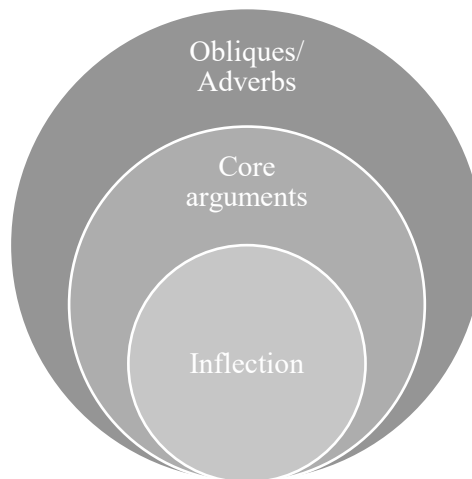


Figure 3 Hierarchy of verbal features in Yukuna

The findings of this study largely corroborate predictions from the functional-typological literature regarding the hierarchy of verbal categories. Drawing on a sample of 50 languages, Bybee (1985) proposes the hierarchy shown in Figure 4, suggesting that the linear arrangement of verbal categories, from inner to outer, reflects their influence on the meaning of the verb stem. Specifically, inner categories tend to encode lexical or derivational meanings, while outer categories generally encode inflectional and syntactic features. Malchukov (2004) further argues that these cross-linguistic tendencies in the ordering of verbal categories can help predict the sequence in which verbal categories are lost or acquired during processes involving changes in finiteness.

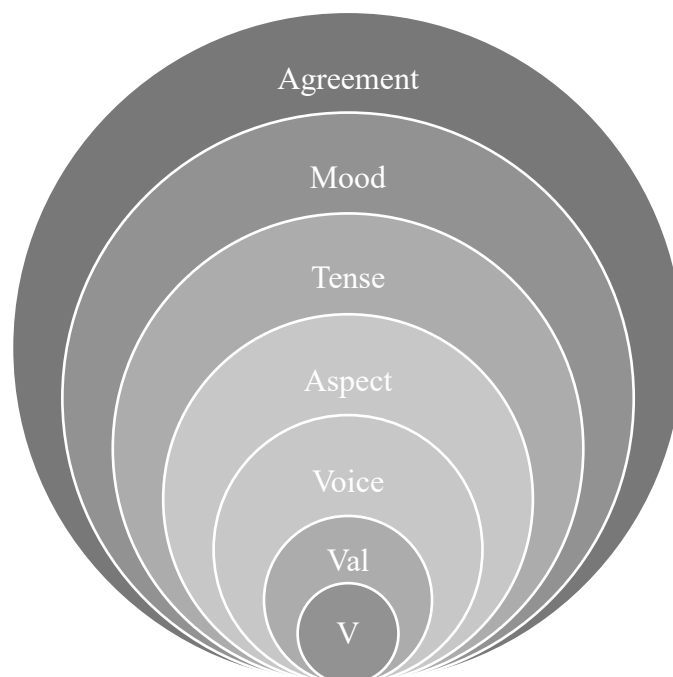


Figure 4 Hierarchy of verbal categories

Although the hierarchy presented in Figure 4 applies at the word level, the Yukuna data suggests that this prediction can be extended to the entire verbal clause. Specifically, the outermost categories (adverbials and obliques) are the first to be ‘acquired,’ while the innermost categories (verbal inflection) are the last. Notably, the hierarchy predicts that mood is more internal than agreement marking, yet in Yukuna, all dependent verb forms

lack mood marking while many exhibit subject marking on the verb—an apparent counterexample to the hierarchy. However, Subject marking in Yukuna does not constitute a case of agreement, but in fact, it is encoded via proclitic person indexes that are mutually exclusive with pronominal and full nominal subjects, indicating that subject indexation operates at the syntactic rather than purely inflectional level. Consequently, subject marking is included within the verbal argument structure and is considered a more external feature than mood marking.

In sum, this section showed how, in a dataset of 28 constructions involving dependent verb forms, we observe great variation in terms of degree of verbality, with constructions scattered throughout all the points along the scale. Out of 28 constructions in the dataset, only nine show a low verbality score, with less than four verbal features. However, no construction reached the highest verbality score, so dependency in Yukuna does entail a partial loss of verbality. Finally, our methodology for studying finiteness variation in dependent verb forms in Yukuna provides robust empirical support for cross-linguistic predictions about the ordering of verbal categories, as constructions follow a clear linear ordering of features from outermost to innermost.

3.2 Nominality score

Similarly to the assessment of verbality scores, we used the same dataset to establish a ranking of constructions per individual degree of nominality.

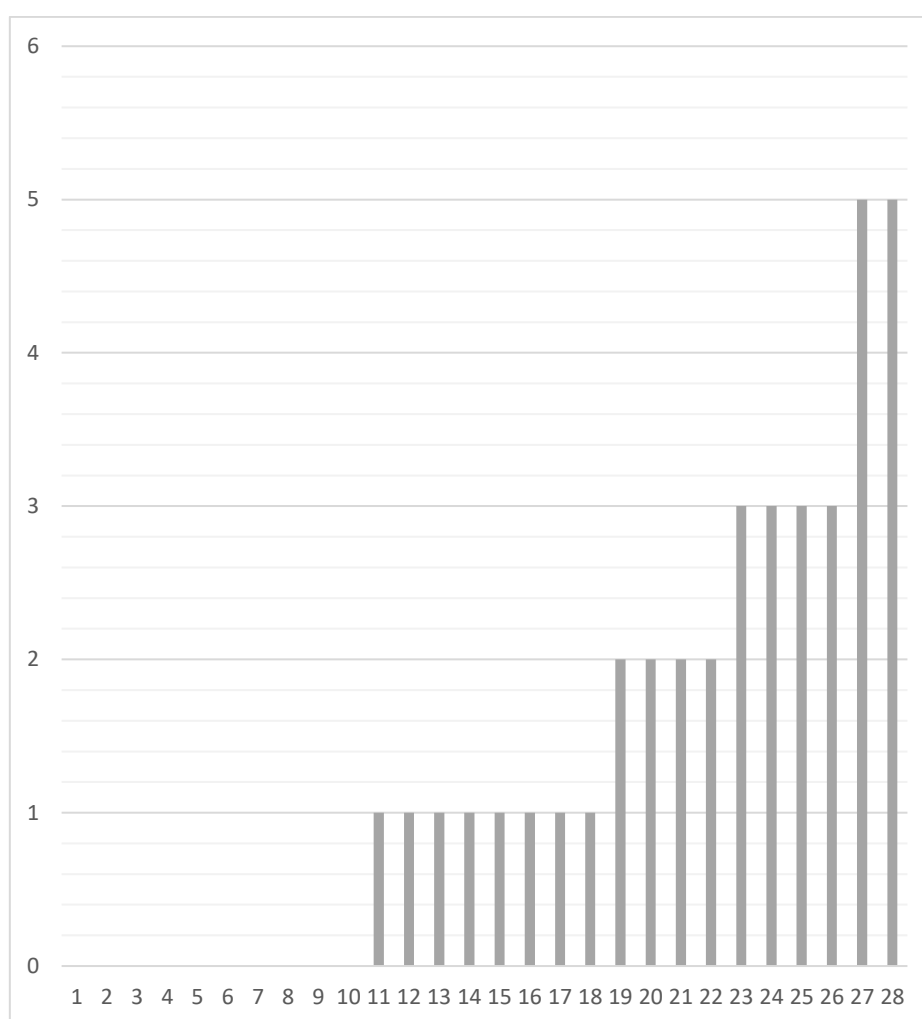


Figure 5 Nominality score per construction (x-axis: construction ID; y-axis: number of nominal features)

Figure 5 shows that nominality levels do not exhibit a random distribution, as constructions tend to group together based on similar degrees of nominality.

First, we observe a large group of ten constructions without any nominal feature whatsoever. This group mostly includes adverbial subordinate clauses encoded with the versatile nominalizer *-ka*, followed by a subordinating conjunction, as illustrated in (15) with the purposive subordinator *lojé*, and in (16) with the negative purpose marker *piyá*.

- (15) ...*ri=ajñá-ka* *lojé* *ri=wajwé*.
 3SG.M=eat-NZ **PURP** 3SG.M=heart
 ‘(He wanted to open his chest) for him to eat his heart.’ (ycn0041,112)

- (16) ...*karená* *ka'-ká* *piyá* *ka'jno* *rikhá*
 wind throw-NZ **NEGPURP** DUB 3SG.NF.PRO
 ‘So that the wind does not throw it down.’ (ycn0119,8)

Next, we find a total of eight constructions with a nominality score of one, six of which display a NP-like syntactic distribution, typically filling syntactic slots characteristic of NPs. Within this group, we find constructions closely resembling those described earlier, where a nominalized clause marked by the suffix *-ka* combines with a postposition to form the functional equivalent of adverbial subordinate clauses, as illustrated in (17). Unlike the markers used as conjunctions in (15) and (16), the postpositions that combine with clausal nominalizations have the same form, meaning and distributional rules as regular postpositions used to encode oblique NPs, as shown in (18).

- (17) [*ri=iphi-cha-ka* *ri=éjé*] *é...*
 3SG.NF=arrive-PST-NZ 3SG.NF=toward **at**
 ‘when he arrives there...’ (Lit. at his arriving towards it) (ycn0041,25)

- (18) *maaré* *nukhá* [*Pedrera*] *é*
 here 1SG.PRO Pedrera at
 ‘Here I am at La Pedrera (town).’ (ycn0018,9)

From a diachronic perspective, constructions such as that illustrated in (17)—where a nominalized clause combines with a postposition to encode adverbial subordination—likely served as the historical source of the adverbial constructions shown in (15) and (16), which involve a non-finite verb form and a dedicated subordinating conjunction. Synchronically, both construction types may still coexist, as shown in example (19). In this case, the marker *é* functions as a subordinating conditional conjunction placed immediately after the *-ka*-marked verb and preceding other clausal constituents (such as adverbials or the object NP). This contrasts with its use as a postposition in (17), where it appears at the right edge of the nominalized clause functioning as an NP.

- (19) *pi=ka'-jĩ-ka* *é* *kajrú* *rikhá...*
 2SG=throw-FUT-NZ **COND** a lot 3SG.M.PRO
 ‘if you throw a lot of it...’ (ycn0058,101)

Results from the dataset also reveal a small set of four constructions with a nominality score of two, each exhibiting an external NP-like distribution and further displaying features characteristic of NPs, such as demonstratives and possessor marking.

In example (20), an action nominalization with the suffix *-kana* combines with a postposition to create a manner adverbial clause that modifies the main predicate.

- (20) *na=la'á* *na=maná* [*jíwi* *la'-kaná*] *chú*
 3PL=do 3PL=spell salt do-EV.NZ on
 ‘they do their spell using ceremonial salt (Lit. on doing salt)’ (ycn0114,43)

Unlike the construction in (16), where the verb is preceded by a lexical noun functioning as the Subject argument, the verb root in (20) is preceded by a lexical noun in possessor position, which semantically corresponds to the notional object of the verb (‘preparing salt’). Constructions of this type therefore lack an overtly expressed Subject. The subject of the main predicate, encoded by the proclitic *=na* ‘3PL’, has scope over the entire sentence, resulting in obligatory co-referentiality between the main and subordinate clauses.

Lastly, constructions with nominality scores ranging from three to five share the previously mentioned features (NP distribution, demonstratives, and possessors) and, in addition, exhibit grammatical features such as gender/number inflection and compatibility with numerals and adjectival modifiers. Importantly, higher nominality scores strongly correlate with the semantic properties of the constructions: most high-scoring constructions are argument nominalizations that create referential entities, as exemplified by the clausal nominalization in (21) and the agent lexical nominalization in (22).

- (21) *É* *maaré* [*kéelé* *pajlúwá=ja* *iphi-cha-ri* *aquí*?]
 Q HERE DEM one=LIM arrive-PST-M here
 ‘Is the one who arrived here here?’ (ycn0504,2)
- (22) ...[*wajla'-jé-ño*] *jló* *iná* *a'-ká* *lojé*
 dance-A.NZ-PL to GNR.PRO give-NZ PURP
 ‘...for one to give to the dancers’ (ycn0059,44)

Once more, the results suggest a logical order in which nominal features appear across dependent constructions, and very similarly to verbality, nominality increases from outermost to innermost nominal categories. Based on these results, we propose the following simplified hierarchy of nominal categories in Yukuna (Figure 6).

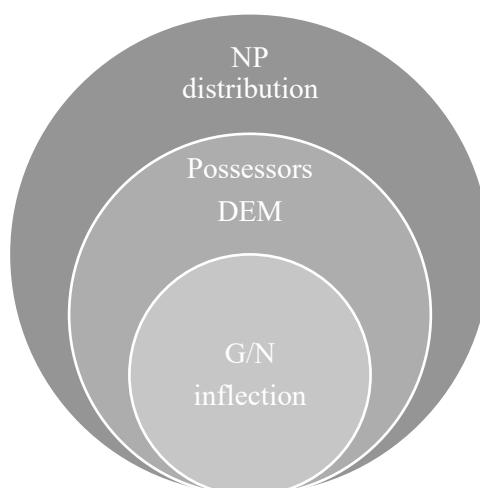


Figure 6 Hierarchy of nominal features in Yukuna

This tendency in Yukuna corroborates Malchukov's (2004:47) implicational hierarchy of substantivization, which proposes that nominal features are progressively acquired from the most external to more internal layers, as schematized in Figure 7.

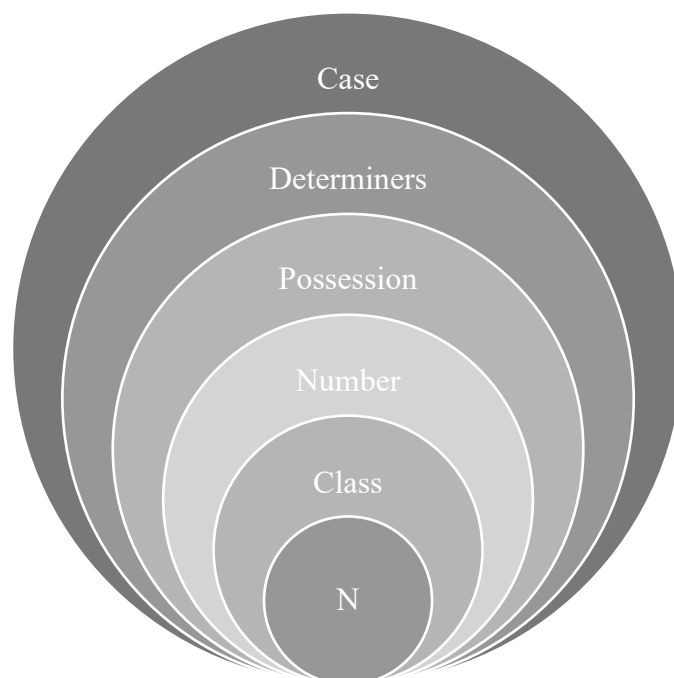


Figure 7 Substantivization hierarchy

In summary, our methodology enables a detailed examination of the distribution of nominal features across a sample of 28 constructions involving various dependent verb forms. From a language-specific perspective, these results suggest a hierarchy of nominal features, while also demonstrating that dependency does not necessarily imply nominality in Yukuna, as most constructions have a relatively low nominality score (ranging from zero to one nominal feature). From a cross-linguistic viewpoint, our findings provide robust empirical support for typological predictions concerning the gradual acquisition of nominal features by verbal forms, as outlined in the relevant literature.

3.3 Verbality and nominality in interaction

Having examined degrees of verbality and nominality across a sample of dependent verb constructions, this section addresses the combination of features from both prototypes. Although the literature on verbalization and substantivization maintains these processes are theoretically independent, meaning a decrease in verbality does not necessarily correspond to an increase in nominality, and vice versa, this section aims to identify language-specific constraints on the combination of these features in Yukuna. Figure 8 integrates the data from Figure 2 and Figure 5, displaying verbality and nominality scores per construction in the sample.

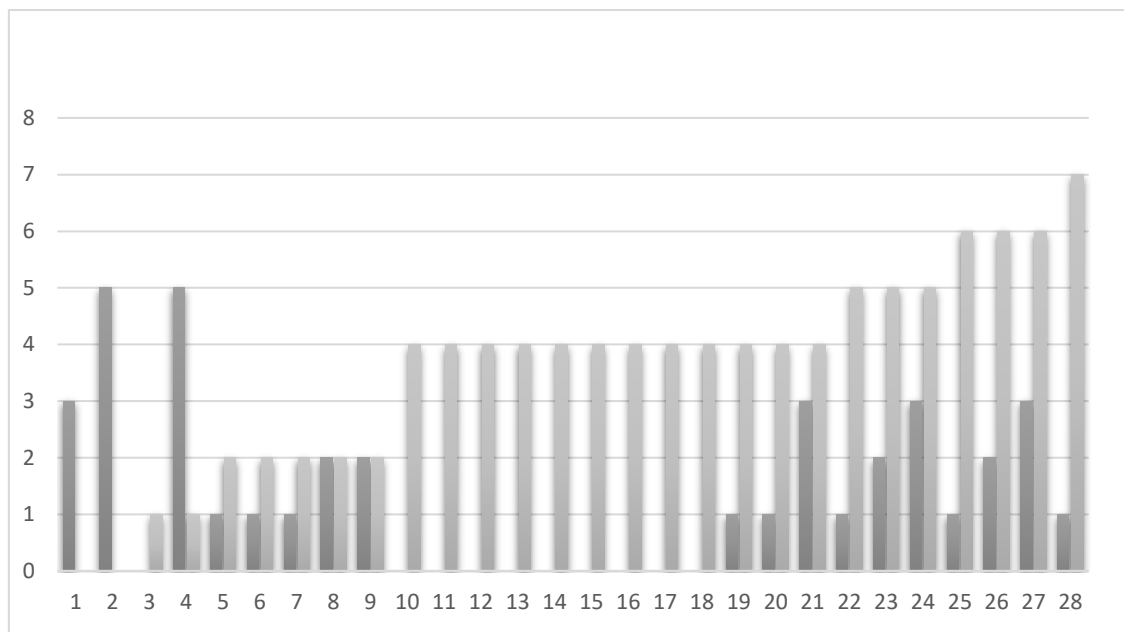


Figure 8 Nominality (dark grey) vs. verbality (light grey) scores in Yukuna

Figure 8 demonstrates that, even at a language-specific level, nominality and verbality operate largely independently. The figure shows exclusively nominal constructions clustered toward the left edge, exclusively verbal constructions near the middle, and various combinations between them. Importantly, a high degree of verbality does not preclude the presence of nominal features, and vice versa. Example (23) illustrates clausal nominalizations marked for Gender/Number, which exhibit features from the nominal prototype, including the external distribution typical of noun phrases, presence of NP-internal modifiers such as demonstratives, and Gender/Number inflection controlled by the nominalization's referent. At the same time, these constructions retain many verbal characteristics, such as valency, tense, and a clause-like structure closely resembling fully finite verbal clauses.

- (23) *Nekhá tá [kéelé jaya'á-ti-ya-ño inau'ké tá yenú]*
 3PL.PRO EMPH DEM bore-CAUS-PST-PL person EMPH above
 'They are those ones who annoyed the people above.'
 (ycn0108,200)

Beyond the nominality and verbality scores, closer examination of the co-occurrence of features from both prototypes reveals that variations in verbality and nominality are not entirely independent processes. Crucially, when a dependent verb

encodes its semantic patient as a possessor rather than as an object, the construction lacks most verbal features characteristic of the verbal prototype.

Table 4 presents the correlation matrix showing the possibility of co-occurrence between verbal features (columns) and nominal features (rows). Features that can co-occur are marked with ‘y’, while those that cannot are marked with ‘n’.

	G/N	O = PSSR	DEM	NP-Dist
Valency	y	y	y	y
Tense	y	n	y	y
Aspect	y	n	y	y
V NEG	y	n	y	y
S = NOM	y	n	y	y
O = ACC	y		y	y
POSTPs	y	y	y	y
ADVPs	y	y	y	y

Table 4 Allowed combinations of Verbal and Nominal features in Yukuna

Constraints on nominality and verbality in Yukuna partially align with typological generalizations in the literature. Croft’s (1991) deverbalization hierarchy posits that when core arguments are encoded as possessors, like in nominal phrases, the construction typically lacks tense-aspect-mood (TAM) marking. Yukuna data strongly supports this implicational tendency, as the nominal encoding of core arguments correlates with an absence of TAM. Cristofaro’s (2003) large-scale study of subordinate clauses proposes several implicational tendencies, including that the presence of case marking or adpositions on the verb implies a lack of TAM encoding or the use of special TAM forms. In Yukuna, dependent verb forms nominalized with suffixes often combine with adpositions to form adverbial subordinate clauses. These constructions frequently allow TAM marking using the same inflectional markers found on fully finite verbs, illustrating partial deviation from Cristofaro’s implicational patterns. Thus, Yukuna reveals nuanced interactions between nominality, verbality, and TAM marking, providing evidence both supporting and refining cross-linguistic typological predictions.

4. DISCUSSION

Regarding the impact of this methodology on the analysis of descriptive issues in Yukuna grammar, the implementation of the verbality and nominality prototypes presented in this study allows for a systematic assessment of the distribution of problematic markers, such as the suffix *-ka*, one of the most versatile and frequent nominalization markers in the language. This marker is used in a total of 11 constructions (in the 28-construction sample), plus at least one additional main-clause construction (not included in the initial sample, but included in this discussion section). These 12 constructions are presented in terms of their nominality (dark grey) and verbality (light grey) in Figure 9 below.

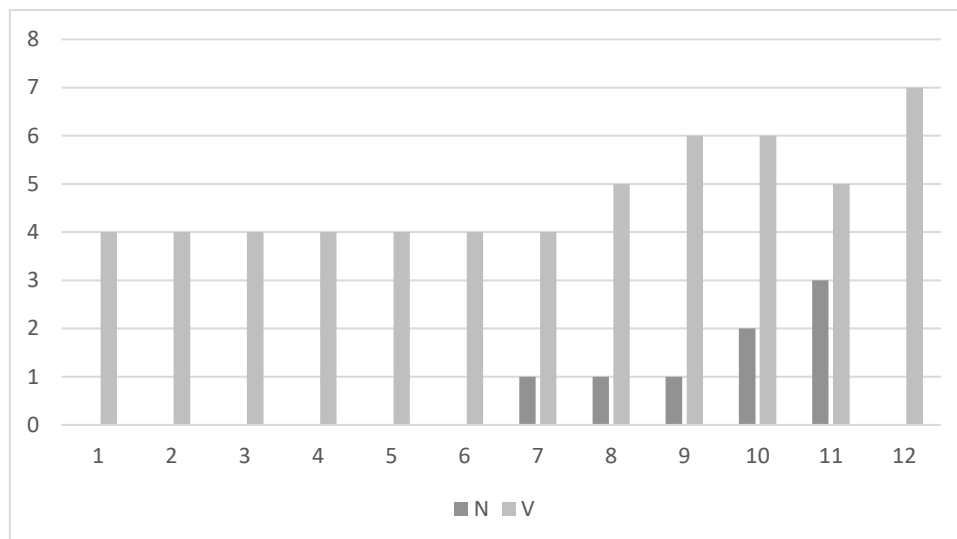


Figure 9 Nominality and Verbality in constructions with *-ka*

Following this chart, we note that most constructions with the suffix *-ka* are only slightly nominal or not nominal at all. The constructions with the highest nominality scores (10 and 11 in the chart) correspond to what we analyze as the proper nominalization uses of *-ka*, illustrated in example (1) and repeated here as example (24). This methodology thus allows us to empirically distinguish between conservative and innovative uses of versatile nominalization markers in Yukuna, thereby differentiating synchronically nominalized from non-nominalized dependent constructions in our dataset. Indeed, all *-ka*-marked constructions except those with a score above one fail to meet the minimal morphosyntactic criteria expected of nominalizations, namely, internal NP features in addition to an external NP-like syntactic distribution, despite sharing the same morphological marking. This suggests that in these constructions the marker has grammaticalized as a dependent-verb marker rather than as a nominalizer.

- (24) [kélélé ri=makápo'-ka rikhá] wemí
 DEM 3SG.M=revive-NZ 3SG.M.PRO price
 'the price of his having saved him.' (ycn0092,96)

In terms of degrees of verbality, we observe that the two constructions classified as nominalizations (10 and 11 in the chart), while more nominal than the others, remain highly verbal. In fact, they exhibit an even greater verbality score than most other constructions. This leads to the conclusion that nominalization in Yukuna entails the acquisition of nominal features, but does not necessarily result in a significant reduction of verbality. Other functional parameters appear more relevant for explaining variations in verbality across the constructions in the dataset. For example, constructions 1 to 7 lack tense/aspect (T/A) marking, whereas the remaining constructions allow it. This variation in verbality scores can be analyzed in terms of parameters such as temporal frame. Dependent clauses whose temporal frame is determined by the main clause lack independent T/A marking, while those with an independent temporal frame exhibit T/A marking. In example (25), the *-ka*-marked complement of the verb 'to order' cannot bear T/A marking, whereas the complement of the perception verb 'to see' in (26) may have its own T/A marking.

- (25) *É kája ri=wakái'-cha [ri=jwa'téje-na jñá'-ká a'jne-jí].*
 then 3SG.NF=order-PST 3SG.NF=worker-pl grab-NZ food-UNPOSS
 'Then he ordered his workers to grab food.' (ycn0068,289)

- (26) *Kája ri=amí-cha [júni iphí-cha-ka phá chójō].*
 Already 3SG.NF=see-PST wáter arrive-PST-NZ house in.toward
 'He saw the water entering into the house.' (ycn108,302)

Lastly, Figure 9 unveils a particularly intriguing scenario with construction 12 positioned at the far right. This construction displays a nominality score of zero and the highest verbality score among all constructions (7 out of 8 features). Notably, these features are found in the “stand-alone” or “non-embedded” (Noonan 1997) uses of *-ka*, where the verb form stands on its own as a main clause predicate, and displays features such as mood marking (27), which are entirely absent from all dependent verb constructions. In this main clause use of *-ka*, the only feature absent from the verbality prototype is verbal negation with *unká ...-la*. However, in every other aspect, this construction closely resembles a finite main clause construction.

- (27) *I=amá-ka=jlá wa=mawirú-té!*
 2PL=see-NZ=FRUST 1PL=pineapple-ALIEN1
 'Go look at our pineapple!' (ycn0068,293)

As illustrated with the case of constructions with *-ka*, this methodology enables us to make sense of the distributional features of constructions that might otherwise be mistakenly grouped together based solely on their diachronic source. By examining the distribution of verbal and nominal features, we can formulate hypotheses regarding the grammaticalization pathways of versatile nominalizers in Yukuna, as we can provide empirical evidence showing how non-referential uses of *-ka*-marked verbs have lost their expected nominal features, and in the most striking case, have even acquired finite-verb morphology such as mood marking. This indicates a clear grammaticalization path of the suffix *-ka* from a nominalizer into a non-nominalized dependent-verb marker used in subordination, and ultimately, into a main clause marker.

5. CONCLUSION

In the introduction to this paper, it was noted that versatile nominalizations present a particularly challenging issue for the synchronic grammatical description of Yukuna. Specifically, some nominalization markers in Yukuna occur in constructions that are internally highly verbal while still displaying a few nominal features, rendering their analysis as either nominalizations or verbal clauses extremely ambiguous. Additionally, the constructions marked with these suffixes exhibit an external syntactic distribution similar to noun phrases and serve a wide range of functions, adding another layer of complexity to their analysis. Beyond, and perhaps due to, their versatility, these markers are highly pervasive, appearing in nearly every sentence and sometimes multiple times within a single sentence in the corpus. Our primary methodological challenge was to make sense of the distribution of these markers within the corpus data.

We proposed that the concept of finiteness, understood as a multilayered scale comprising both nominal and verbal features, can be used as a descriptive tool to make sense of the complex distributional properties of nominalization markers and clarify the

interaction between nominality and verbality in general. To apply finiteness as a descriptive tool on a language-specific basis, we associated it with concrete structural units through the concept of a prototype. Accordingly, the verbality and nominality scales were defined as cumulative grids encompassing prototypical features typical of declarative verbal clauses and noun phrases, respectively.

Sections 2 and 3 of this paper laid out methodology used to assess finiteness in our sample of constructions. We presented the main results in terms of individual degrees of verbality (§3.1) and nominality (§3.2), as well as restrictions on the combination of features from the two prototypes (§3.3). Our analysis showed that the distribution of verbal and nominal features across constructions is not random but follows a logical pattern. Specifically, the order in which these features appear suggests an inward progression, moving from more external features of clauses and noun phrases toward more internal features of verbs and nouns, such as inflection at the word level.

Lastly, we demonstrated that variations in verbality and nominality are not entirely independent processes in this language. Specifically, when the dependent verb encodes its semantic patient as a possessor rather than as an object, the construction also lacks most verbal features characteristic of the verbal prototype. These findings provide strong empirical support for hypotheses advanced in the functional-typological literature on deverbalization and nominalization. Furthermore, this study offers a methodological framework for comprehensively assessing finiteness at the individual language level. Such an approach facilitates the identification of recurrent patterns across constructions and enhances the potential for cross-linguistic comparability.

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