Three Puzzles from Camsá Morphology

Maxwell Blackburn and Hunter Vooys

Department of Linguistics, McGill University
LING 440: Morphology
Professor Martina Martinović

Abstract

Camsá (also spelled Kamsá, Kamentšá, and Camentšá), is a language isolate spoken in Colombia at a transition point between the Amazon lowlands and Andean highlands (O'Brien 2018:2). It is endangered and understudied, with an elderly speech community and no more than 10 published linguistic works (O'Brien 2018:23), with O'Brien (2018) representing the first reference grammar. Camsá has also been described as morphologically complex (O'Brien 2018:27). These qualities: genetically isolated, typologically transitional, understudied, and morphologically complex, all make further analysis of Camsá a potentially valuable contribution to our understanding of morphology. In this paper, we explore three puzzles present throughout the language. First, we explore an alternation in the forms of adjectives triggered by linear positioning with respect to their head nouns, and argue it represents an alternation between true noun-adjective structure building and noun-adjective compounding. Second, we describe a process within the verb that seems akin to noun incorporation or noun-verb compounding. Finally, we revisit a decomposition of the agreement system, arguing that the *o* vowel present in several prefixes is a separable morpheme; and suggest that, moreover, this morpheme is sensitive to the presence of an incorporated noun.

1 Introduction

Camsá (also spelled Kamsá, Kamentšá, and Camentšá), is an endangered language isolate spoken in Colombia by around 500 people[1] (O'Brien 2018:18).[2] The core speech communities are located in the

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[2] There is no official orthography for the language (O'Brien 2018:49). We use the orthography that is used in large publications such as the Bible (*Bëngbe Bëtsa Cabëngaftaca Entsoyebuambna - El Nuevo Testamento en el idióma camsá* 2009) and the dictionary (Juajibioy 2018). This orthography aligns with the IPA except for the following graph:[IPA] pairs: ë:[1], š:[ù], tš:[tù], ch:[Ù], ÿ:[^{n}Ã], sh:[S], ñ:[ñ], y:[j], j:[x], ng:[^{N}g], ll:[L], c:[k]. Of the sources we reviewed, only O'Brien (2018) writes /wV/ sequences; other sources render this sequence as uV. We render every /uV/ and /wV/ sequence as <uV>. As the distribution of /w/ is limited to pre-vocalic position (O'Brien 2018:39), this should not cause ambiguity. For a full description of different orthographies in use in various works, see (O'Brien 2018:49).

Sibundoy valley, which has been described as a transition from the lowlands to the highlands (O'Brien 2018:2); or correspondingly, from the Amazon to the Andes (O'Brien 2021): reflecting this, Camsá has been described as displaying a mix of typologically Amazonian and Andean features (O'Brien 2018; O'Brien 2021). Being both a language isolate and located at a typological and geographical transition, the language provides much potential insight into the structure of South American languages and language in general.

The potential value in studying Camsá also stems from its understudied nature. No more than 10 linguistics works have been published on the language (O'Brien 2018:23), with O'Brien (2018) representing the first reference grammar, only published in 2018. Juajibioy (2018), a dictionary for the language, was also only published in 2018. As a result, any careful look at the structure of the language is likely to reveal phenomena of relevance to general linguistics.

A final relevant quality of the language is that Camsá is described as morphologically complex, with extensive TAM and agreement morphology on verbs, and case and class marking on nouns (O'Brien 2018:27). This makes it especially relevant for studying morphology. In short, Camsá is genetically isolated, typologically transitional, understudied, and morphologically complex. Each of these qualities make it particularly worth exploring, especially in the context of the study of the morphology

In this paper, we explore three puzzles present within the language. First, we explore an alternation in the forms of adjectives triggered by linear positioning with respect to their head nouns. Second, we describe a process within the verb that seems akin to noun incorporation. Finally, we revisit a decomposition of the agreement system, with a focus on the *o* vowel present in several prefixes.

The sections are organized as follows. Section 2 introduces the relevant background on the language, focusing on nominal and verbal morphology. Section 3 examines the first puzzle, alternations in adjectives, and argues that they are caused by alternations between an adjunction and a compounding structure. Section 4 describes the second puzzle, which concerns a process that appears like noun incorporation, and provide preliminary evidence for this analysis. Section 5 analyzes several parts of the agreement system, concluding that the *o* vowel spread throughout the agreement is a separate morpheme which tracks noun incorporation. Section 6 concludes.

2 Language Background

2.1 Nominal Morphology

Camsá nominal morphology is primarily expressed through suffixing (in contrast to the verbal domain which is characterized by primarily prefixing processes). However, there are some circumfixal class markers, such as those that appear on the adjectives 'red' and 'blue' in example (2).[3]

Camsá nouns are distributed among 10 noun classes, including one class with null markings, but not including one putative class (the 'human class') which does not trigger adjectival class agreement (O'Brien 2018:64). Class markers, when present, are obligatory on the noun and on the adjective (if the adjective follows the noun). Nouns and adjectives can also be marked for things other than noun class, such as case in example (1). Determiners and pronouns are not typically class marked, at least not when the noun is overt. As a result, there are instances of class-marked adjectives modifying a non-class-marked determiner, as in (2).

(1) sënjatbonja šešon uasnaniya uasnaniya
s-n-j-atbonja šešon ua-snani-ya ua-buangani-ya-c
1SG.SUBJ-EVI-VBLZ-cover baby CLF-blanket-CLF CLF-red-CLF-INST
'I covered the baby with the red blanket' (O'Brien 2018:155)

(2) cem yentšiya indeuamën uabchendujua i inÿa uabuanganjua
cem yentš-iya i-nd-euamën ua-bchendu-jua i inÿa ua-buangan-jua
DEM cloth-CLF 3SG-HAB-be CLF-blue-CLF and other CLF-red-CLF
'The cloth is blue and the other is red' (O'Brien 2018:62)

O'Brien (2018:54) provides 2 structures for nouns. For nouns with a class marker, the structure is root + class + (dim) + (number) + (case). For those without class marking, the other affixes are similarly ordered.

[3] Glossing abbreviations follow Leipzig convention, with the following labels: FUT=future; GEN=genitive; EVI=evidential; PROG=progressive; VBLZ=verbalizer; HAB=habitual; LOC=locative; DIM=diminutive; CL=classifier; INST=instrumental; TOP=topic; COND=conditional; IRR=irrealis; NEG=negation; DET=determiner; BEN=benefactive; PST=past; ALL=allative; SUBJ=subject; DEM=demonstrative; TH=thematic (vowel); INF=infinitive; OBJ=object; du=dual; SUB=subordinator; O=*o* agreement vowel; Q=question; PART=particle; IMP=imperative. Glosses with X>Y indicate transitive agreement with an agent X and a patient Y.

2.2 Verbal Morphology

Camsá also exhibits complex verbal morphology. Verbs can be marked for tense, aspect, mood, evidentiality, subject agreement for person and number, object agreement for person, and negation (O'Brien 2018:87). Other qualities may be marked, though the complexity of the verb obscures any other certain claims of morpheme identity.

Verbs in their citation form minimally contain 3-4 morphemes, depending on their analysis. Example (3) shows the verb meaning "to see them".

(3) janÿan
j-a-nÿe-an
VBLZ-TH-see.them-INF
'To see them.' (Juajibioy 2018:20)

O'Brien (2018:128) refers to the first morpheme as a "verbalizer", and we do so, as well. Its function is unclear, also appearing in inflected verbs, though it is not mandatory. O'Brien (2018:128) mentions it may simply be deleted in more inflected verbs for phonological reasons; we put aside its analysis in this paper.

O'Brien (2018:87) mentions verb roots can start with *a*, *o*, or *u* (/w/), including them in the root within morpheme breakdowns. We gloss these as separate prefixes for two reasons. First, taking these to be separate morphemes simplifies our analysis of noun incorporation in Section 4. Second, Juajibioy (2018:15) provides compelling breakdowns suggesting these morphemes should in fact be separated out. We gloss these as th, for "thematic", by analogy with the thematic vowels of Indo-European and inspired by their labeling in Juajibioy (2018) as "functional vowels".[4] Their actual function is unclear. Pairs such as those in (4) and (5) suggest some sort of classificatory function, but this is beyond the scope of this analysis.

(4) jajájuan
j-a-jajuá-n
VBLZ-TH-lay.something-INF
'To lay something on something' (Juajibioy 2018:106)

[4] Spanish *La Vocal Funcional*

(5) juajájuan
j-ua-jajuá-n
VBLZ-TH-lay.something-INF
‘To lay something complex on something‘ (Juajibioy 2018:106)

The third morpheme is the root. Other derivation morphology such as reflexives may occur between the verbalizer and the theme. The last morpheme present in citation forms is the suffix called infinitive, thus glossed as inf: its distribution seems to match that of non-finite verbs. In its place, a benefactive suffix can also appear (O’Brien 2018:120).

Other verbal morphology is prefixing. Example (6) shows a highly inflected verb, marking subject and object, evidentiality, and aspect. The morpheme glossed as o is included in analyses like that of O’Brien (2018) as part of the agreement prefixes: we argue for its separation in Section 5. However, as its function is not yet entirely clear, we gloss it neutrally.

(6) s̈contsonÿa
s̈-c-o-n-ts-o-nÿa
1SG.OBJ-2SG-O-EVI-PROG-TH-look.at
‘You are looking at me.’ (O’Brien 2018:109)

Prefixes that may appear more peripherally than agreement include irrealis marking, and possibly tense (O’Brien 2018).

3 Puzzle 1: Adjective Morphology Alternations

Adjectives interact so significantly with nouns that O’Brien (2018:150) defines the open class of adjectives as ”words that can agree with nouns in class, number and sometimes evaluatives and/or case”. Case marking is exemplified in example (1), plural marking is exemplified in example (7), and evaluative marking in example (8), in which the adjective /baše/ ‘small’ has a diminutive suffix to agree with the noun it modifies.

(7) unga s̈loftsëng buanganang
unga s̈loftsë-ëng buangan-ang
three bird-PL red-PL
‘The three birds (are) red’ (O’Brien 2018:151)

(8) ceše̱tem baše̱tem ijemën
ceše-tem baše-tem i-j-emën
dog-DIM small-DIM 3SG-VBLZ-be
'The little dog was small' (O'Brien 2018:121)

The analysis in O'Brien (2018:151) claims that adjectives ending in /o/ or /a/ lose their final vowel when they precede the noun. It is also claimed that the stressed vowel /á/ is not dropped, although an example of such an adjective is used to demonstrate the process (example (12); O'Brien 2018:151). In example (9), the absence of the adjective-final vowel changes the meaning of the sentence, suggesting analysis of the vowel as a morpheme separate from the adjective.

(9) a. atš chanjacuenta atšbe enutá botaman cuento
atš s-ch-a-n-j-acuenta atš-be enutá botamana cuento
1SG 1SG.SUBJ-FUT-?-EVI-VBLZ-tell 1SG-GEN friend beautiful story
'I'm going to tell my friend a beautiful story' (O'Brien 2018:197)

b. atš chanjacuenta atšbe enutá botamana cuento
atš s-ch-a-n-j-acuenta atš-be enutá botamana cuento
1SG 1SG.SUBJ-FUT-?-EVI-VBLZ-tell 1SG-GEN friend beautiful story
'I'm going to tell my beautiful friend a story' (O'Brien 2018:197)

What are the exceptions one would encounter trying to apply the rule "adjectives lose their final vowel pre-nominally" to the Camsá data? Any satisfactory analysis must account for all of the following exceptions:

- There are some adjectives that appear never to end in vowels, even post-nominally. Some adjectives optionally end in vowels post-nominally, such as *botaman(a)* in example (10).
- Some adjectives appear always to end in vowels, even pre-nominally, such as the adjective *yemba* in example (11).
- Some adjectives which do lose their final vowels pre-nominally (like the adjective meaning 'black'; see example (12)), appear to retain the final vowel when there are additional suffixes on the adjective (example (13)).[5]

[5] The word for "black" in 13 is written as *ftsengwu* in O'Brien (2018): to adopt it to the orthography, we have removed the <w> — it is unclear what this phonologically represents, given that /wu/ is not an allowable glide-vowel sequence (39 O'Brien 2018).

(10) atsͧbe enuta **botamán** tsaba intsoyejua
atsͧ-be enuta **botamán** tsaba i-n-ts-oyejua
1SG-GEN friend **beautiful** good 3SG-EVI-PROG-happy
'My beautiful friend is happy' (O'Brien 2018:157)

(11) chca jtsopasanan porce choyna caba **yemba** jente camoyenaca
chca j-ts-opasanan porce choy=na caba **yemba** jente ca-mo-oyena-ca
like.this VBLZ-PROG-happen because there=TOP still **infidel** people INTS?-3PL-live-DISC
'This happens because the unfaithful (non-christian) people still live there.' (O'Brien 2018:164)

(12) **ftseng** uakná / uakná **ftsengá**
ftseng uakná / uakná **ftsengá**
black cow / cow **black**
'black cow' (O'Brien 2018:57)

(13) uabouan **ftsengu**ëjna canÿe shembioy tshangan yerufja bejtseyautsayse
wabowan **ftsengu**-ëj=na canÿe shem-bi-oy tshangan yerufja be-j-ts-eyautsay-se
horrible **black**-EVAL=TOP one woman-ANI-ALL heated rod-EVAL DU-VBLZ-PROG-put.in-SUB
'A horrible black man was putting a heated rod into (the mouth of) a woman' (O'Brien 2018:83)

With these data in mind, there is an outstanding question to address: how can we formalize this alternation? We consider three analyses: phonology (which we determine to be inadequate), allomorphy of the adjectival root (which is perhaps too adequate), and the possibility that the absence of the adjectival suffix /-a/ is indicative of the adjective forming part of an AdjN compound.

3.1 Analysis 1: A Phonological Process

There is significant evidence against a phonological process explaining the alternation. In this analysis, adjectives that can ever end in a vowel are always generated with that vowel, and a phonological rule removes this vowel when the adjective is immediately pre-nominal: $V \rightarrow \emptyset / \underline{\ }]_{adj}N$. Attempting to apply this model to the data reproduces many of the exceptions above, which are analytically fatal under the assumption that phonology is exception-less. It is allowable under this model that some adjectives never end in vowels; they are simply not stored or generated with one. What is far less allowable are: adjectives ending in a vowel post-nominally but only optionally (see (2), (10), and (7)); immediately pre-nominal adjectives whose final vowel is not deleted by a phonological process (see (11)).

Initially, data points such as example (13), in which intervening suffixes between the adjective and the noun seem to prevent the application of this rule, seem relatively unproblematic. However, if we posit that suffixes block the application of this rule (which is necessary to account for (13)), we expect that blocking to apply across-the-board. Thus, we can no longer explain adjectives that fail to end in vowels pre-nominally, even though the final vowel should have been spared by the intervening content, as in example (13)[6].

(14) chëngna ndoñ bëtsëtsanga monjobemas
chëngna ndoñ bëts-ëts-anga mo-n-j-obemas
3PL-TOP NEG big-?-PL 3PL-EVI-VBLZ-become
'They didn't get big' (O'Brien 2018:226)

Finally, the references to syntactic categories makes '_]$_{adj}$N' a sketchy triggering context for a phonological rule, again suggesting that this is not an adequate model.

3.2 Analysis 2: Root Allomorphy

Instead of the adjective roots always generating with (or without) a final vowel, the phonological form that is inserted could alternate. This could be formalized as a vocabulary insertion rule, or rather a similar vocabulary insertion rule for each adjective. /botaman/ 'beautiful' is an adjective that always surfaces without a final vowel pre-nominally and sometimes ends in an /a/ post-nominally. Perhaps this pattern could be captured with the following vocabulary insertion rule, which accounts for the optionality of a post-nominal adjective-final vowel by encoding the optionality into the vocabulary insertion rule:

$$\left\{ \begin{array}{l} \text{botaman / \_ N} \\ \text{botaman(a) / elsewhere} \end{array} \right\}$$

The apparent exception in example (13), where 'black' surfaces as /ftsengwu/ pre-nominally, is potentially less problematic under this model ('potentially' because we do not have a full tree structure for the sentence). This is because the addition of evaluative and topic suffixes between the adjective and the noun may move the noun out of the immediate context that would be visible (so to speak) to the

[6] /bets(á)/ 'big' is an adjective that alternates - sometimes ending in /á/ and sometimes not. Thus, one can't account for example (13) by saying that the underlying adjective is not stored with a vowel and would thus never be generated with one.

vocabulary insertion rule. As with phonology, this corresponds to a problem with pre-nominal adjectives with suffixes that do not end in vowels (even though they could), such as (13).

Some exceptions (like the form 'yemba' in (11)) and forms that do not alternate (e.g., always end in a consonant) can be analyzed as special cases: adjectives that have only one vocabulary insertion rule - only an elsewhere form.

{ yemba / elsewhere }

Although the root allomorphy approach is more effective than the phonological rule approach, it is also limited in important ways that we would like to resolve. Firstly, too much information has to be specified for each adjective root, which potentially obscures patterns that operate across many roots. Secondly, the use of an optional final vowel and '_ N' as a vocabulary insertion context would probably require extensions to the theory.

3.3 Analysis 3: Separate Morpheme

Positing a suffix which attaches to adjectives and whose phonological form is a singleton vowel could explain the alternation in two ways: (1) the morpheme is absent on some adjectives and present on others (i.e., there is a structural difference between pre-nominal and post-nominal adjectives which has a morphological exponent), or (2) the morpheme is present on all adjectives but surfaces as /−∅/ on some.

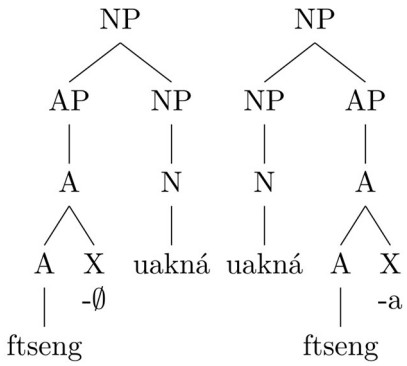

Figure 1: Trees for 'black cow': ftseng uakná on left, uakná ftsenga on right

Let's first imagine scenario (2) to see why it is sub-optimal. Figure 1 shows the trees for the noun phrases in example (12). Both trees include a suffix (provisionally labeled X) which surfaces as ∅ on the left (pre-nominally) and as /a/ on the right (post-nominally). However, this pattern seems impossible to formalize using the theory developed in class. The right-or-left location of the NP node, relative to the AP

node, should not be able to determine the phonological form of a suffix 2 layers down the tree. Not only is this relative location, this right-or-left-ness, not in the theory, but it is remote from the suffix, which is internal to the adjective (and thus to the adjective phrase).

Finally, we turn towards the hypothesis that there is some structural, morpho-syntactic difference between pre-nominal and post-nominal adjectives that is marked by a singleton vowel suffix (which appears to vary depending on the root). The structural differences we think are most likely to account for the pattern are the differences between phrasal structures and compound. The /-a/ suffix, then, is analyzed through the lens of Distributed Morphology (Halle and Marantz 1993) as an adjective categorizing head, *a*. In the cases when the adjective follows the noun, it is presumably serving as a nominal adjunct. In that position, the adjectival root is generated, as is the adjective classifying head, which optionally surfaces as a vowel (this needs to be optional to account for post-nominal forms that do not end in vowels, like (10)). In the cases where the adjective appears to lose its vowel pre-nominally, this is the result of the adjectival root forming a compound with the noun. This compound would represent the direct merger of two roots, which are then classified as a noun, thus explaining the lack of /-a/, the adjective-classifying suffix.

For roots that do not alternate and consistently end in vowels even pre-nominally, like <yemba> in (11), the root is stored and always generated with a final vowel. The adjective-classifying suffix would not surface on an adjective that ends with a vowel because of the restrictions on hiatus (i.e., /aa/ is an illicit sequence; O'Brien 2018). Those adjectives that never end in vowels pose the largest analytical problem; in this case, we are forced to posit a null categorizing adjectival head.

To us, this analysis seems like a promising avenue to account for the variation, yet there remains a significant amount of work before the contours of this process are more fully mapped out into a formal model that generates testable predictions. Particularly, relatively thorough syntactic fieldwork would likely be required to identify what types of constituents could be incorporated into the noun or used in compounds and whether these differences in type can explain the presence of the adjective-classifying suffix on some pre-nominal adjectives but not others. Additionally, further investigation would be needed to determine the productivity of this process, which clearly does not produce alternation in the form of *all* adjectives. If we could find some *natural class* of adjectives for which the alternation is present (preferably exclusively), that would be ideal; as long as it has to be specified adjective-by-adjective which ones are subject to the addition of this category-determining suffix, there are few reasons to prefer it to analysis 2 using root allomorphy.

3.4 Provisional Conclusions

We presented data from Camsá adjectives which clearly indicate a pattern waiting for adequate explanation and then proposed three possible explanations for that pattern. Our first explanation, phonology, failed to function as an explanation in any meaningful sense, but its failure as an explanatory tool pointed to the exceptional cases that any better model would have to explain. Root allomorphy fully accounts for the data but once again fails to explain it. The 'explanation' is constructed with data already in hand, and no prediction is made for new data other than that we will be able to sort the adjective into one of a few categories and assign it the corresponding set of vocabulary insertion rules. The final explanation seeks to analyze the alternating vowel as an adjective-classifying suffix, absent on those pre-nominal adjectives which are generated in compounds. This crucially makes a prediction. Rather than having free word order where adjectives can generate before or after the noun, adjectives generate after the noun unless they are in compounds. Correspondingly, it should be possible to have coordinated adjectives (e.g., 'yellow and smooth') post-nominally but not pre-nominally because the coordination could not target bare roots.

4 Puzzle 2: Nouns Incorporation

Camsá exhibits several sets of verbs with shared semantic and morphological characteristics, as in (15)-(18).

(15) juashecjabián
j-ua-shecjabia-n
VBLZ-TH-wash.feet-INF
'To wash feet' (Juajibioy 2018:197)

(16) juashecjatsán
j-ua-shecjatsá-n
VBLZ-TH-lay.underfoot-INF
'To lay something under one's foot' (Juajibioy 2018:198)

(17) juashecuastán
j-ua-shecuastá-n
VBLZ-TH-follow.someone-INF
'To follow someone (lit. to follow behind another's feet)' (Juajibioy 2018:198)

(18) juashecyenán
j-ua-shecyená-n
VBLZ-TH-place.foot-INF
‘To place one’s foot on another’s foot‘ (Juajibioy 2018:198)

These verbs all involve feet in some manner. Correspondingly, the verb roots all share the string *-shec-*. Crucially, this string is also found in the noun ”foot”, decomposed in (19). The relevant suffix, *-cuatsʉ̈*, is mentioned by O’Brien (2018:64) as potentially being a frozen classifier suffix, as it does not participate in concord.

(19) shecuatsʉ̈
shec-cuatsʉ̈
foot-clf?
‘Foot‘ (Juajibioy2018:255)

This suggests that the verb roots in (15)-(18) are complex: the root for ”foot” is actually present within a larger stem. These are re-analyzed in (20)-(23).

(20) juashecjabián
j-ua-shec-jabia-n
VBLZ-TH-foot-wash-INF
‘To wash feet‘ (Juajibioy 2018:198)

(21) juashecjatsán
j-ua-shec-jatsá-n
VBLZ-TH-foot-spread.on.floor-INF
‘To lay something under one’s foot‘ (Juajibioy 2018:198)

(22) juashecuastán
j-ua-shec-uastá-n
VBLZ-TH-follow-INF
‘To follow someone (lit. to follow behind another’s feet)‘(Juajibioy 2018:198)

(23) juashecyenán
j-ua-shec-yená-n
VBLZ-TH-foot-support.foot-INF
‘To place one’s foot on another’s foot‘ (Juajibioy 2018:198)

Furthermore, the relevant verbs are all attested in their independent forms: *jajabián* ”wash”, *jajatsán* ”spread on the floor”, *juastán* ”follow”, *joyenán* ”support the soles of your feet”. Thus, there is

clear motivation to decompose these verbs into sequences of noun roots followed by verb roots. This also motivates our decomposition of theme vowels: the noun roots appear between the theme vowels and the verb root. Cursory inspection suggests the noun root conditions the form of the theme vowel, but what this means theoretically is beyond the scope of our analysis.

This process seems akin to noun-verb compounding or possibly noun incorporation. Abstracting away from discussions about the exact theoretical nature of noun incorporation, we distinguish between these two possibilities. In the case of noun-verb compounding, the roots should combine directly, and thus we expect (i) potentially idiosyncratic meanings and (ii) no sensitivity to argument structure. On the other hand, if this is some sort of incorporation, where a reduced nominal is merging in argument position with the verb, we expect this process to be sensitive to argument structure. We argue for the latter option: data from alternations suggests incorporated nouns (a) can saturate arguments and (b) target the same argument position within a given verb.

Given that this phenomenon does not seem to be mentioned in previous analysis, one might wonder if the process is actually productive. This is difficult to answer based on the data present alone, as verbal morphology is not always easily decomposable, but we argue that this process occurs widely enough to merit synchronic analysis.

The scope of incorporation is also worth mentioning. While the easiest examples of incorporations seem to involve inalienably possessed nouns like body parts, other examples exist. Example (24) shows an example where ”bed” has been incorporated into the verb meaning ”put something on something”. The corresponding verb and noun are shown in (25) and (26), respectively.

(24) jajutsnájuan
j-a-jutsn-jájua-n
VBLZ-TH-bed-place.on-INF
‘To place something on bed.‘ (Juajibioy 2018:112)

(25) jajájuan
j-a-jájua-n
VBLZ-TH-place.on-INF
‘To place something on something.‘ (Juajibioy 2018:106)

(26) jutsnëshá

jutsn-shá

bed-CLF

‘Bed‘ (Juajibioy 2018:206)

Example (27) shows ”attic” being incorporated into the same verb, with the independent noun in (28).

(27) jatsëmiájuan

j-a-tsëmio-ájua-n

VBLZ-TH-attic-place.on-INF

‘To put something on the attic space.‘ (Juajibioy 2018:130)

(28) tsëmioc

tsëmio-c

attic-CLF?

‘Attic‘ (Juajibioy 2018:274)

Notably, the verb *jajájwan* seems to be ditransitive, as indicated by the translation in (25).[7] Moreover, in the incorporating variants in (24) and (27), the incorporated noun has saturated one of the thematic roles: crucially, it is occupying the *same role* in each example: that of the goal/location. While this is odd, as an incorporated noun might be expected to saturate a theme, the semantics of the translation might not reflect the true argument structure of the language. As such, we predict that, given the language’s nature as a primary object language (O’Brien 2018:28, in the terminology of Dryer 1986), verbs like *jajájuan* will exhibit object agreement with the argument that is translated as the theme instead of the goal.

Two more examples bear mentioning. Example (29) shows ”foundation/base” incorporated into an unknown verb, with the independent noun in (30). Example (31) shows ”drop” (shown in (32)) incorporated into what seems to be the same verb: the meaning seems associated with things landing on

[7] Juajibioy (2018:106) lists it as a transitive verb, but in general does not seem to distinguish transitives from ditransitives [7]The incorporated and free form of ”drop” have metathesized *ts* with respect to each other, which we put aside.

the ground.[8] This shows the difficulty in identifying incorporation with existing data, as some of the relevant verbs are not attested independently.[9]

(29) Canÿe yebna ndayiñe chaotsé́cuatjonama tojapormacá
canÿe yebna ndayiñe ch-ao-tsé́cua-tjona-ma t-o-j-a-porma=cá
one house ? FUT-COND?-base-land?-BEN PST-O-VBLZ-TH-make=TOP
'The foundation he [God] has laid is solid.' (1 Corinthians 3:10)

(30) tsëscuá
tsëscuá
foundation/base
'Base' (Juajibioy 2018:275)

(31) jabuastëtjonán
j-a-buast-tjona-n
VBLZ-TH-drop-land-INF
'Drops of liquid fall' (Juajibioy 2018:100)

(32) buatsëndón
buats-ndón
drop-?
'Drop' (Juajibioy 2018:330)

One other prediction of noun incorporation as opposed to compounding is that incorporated nouns will have more structure than just a root. Phrased within the theory of Distributed Morphology (Halle and Marantz 1993), we expect incorporated nouns to minimally consist of a root and a categorizing head *n*. Incorporated nouns do appear without case and classifier marking, however case is associated with a relatively high projection (Bittner and Hale 1996); and given that adjectives also express class marking (O'Brien 2018:150), this too must be located above the categorizing heads. However, there are still no good candidates in the language for an overt instantiation of *n*, so for now we are forced to posit null heads in this position.

[8] The incorporated and free form of "drop" have metathesized ts with respect to each other, which we put aside.

[9] For organization, excerpts from the Camsá Bible are cited as bookchapter:verse. We sometimes omit broader parts of the verse. The relevant citation is *Bëngbe Bëtsa Cabëngaftaca Entsoyebuambna - El Nuevo Testamento en el idióma camsá* (2009).

One final example of the difficulty in decomposing incorporation and the structure of nominals is this. Examples (33) and (34) show two verbs that seem to have incorporated the root *-buch-*.[10] This root clearly seems to correspond to ”eye”.

(33) jabuchjuinÿinÿán
j-a-**buch**-juinÿinÿá-n
VBLZ-TH-eye?-burn-INF
‘To burn the eyes‘ (Juajibioy 2018:100)

(34) jabuchanenán
j-a-**buch**-anená-n
VBLZ-TH-eye?-move-INF
‘To shake one’s eyelids‘ (Juajibioy 2018:100)

However, as seen in (35) and (36), neither listed free form for ”eye” corresponds to this root. Example (37) also displays what appears to be a true noun-noun compound: the root *buch* reappears here. Also of note is that the class marker *-ch* is associated by Juajibioy (2018:12) with flexible and flat things. Thus, ”skin” is clearly the head of the compound in (37), further suggesting that *buch* represents a bare root.

(35) fs̈nëbe
fs̈në-be
eye-CLF
‘Eye‘ (Juajibioy 2018:345)

(36) bominÿ
bominÿ
eye
‘Eye‘ (Juajibioy 2018:345)

(37) buchbobach
buch-boba-ch
eye?-skin-CLF
‘Eyelid‘ (Juajibioy 2018:60)

The assumption that (37) represents root-root compounding is problematic for the incorporation account, since the bare root corresponds to the incorporated noun: we are forced to posit a null *n*. We leave the resolution of these conflicting data to future work.

5 Puzzle 3: Decomposing Agreement

Camsá verbs exhibit polypersonal agreement: they may mark one or two arguments with agreement prefixes. O’Brien (2018:106) offers some tentative decompositions of these prefixes into

[10] We omit the standalone verbs for brevity, but they are attested in Juajibioy (2018).

separate agreement and/or number prefixes. We put aside this deeper analysis for now and examine the surface appearance of the agreement prefixes.

5.1 1st Person Subject Tense Variance

Example (38) shows that the first person subject prefix is *së-*. Example (39) demonstrates that the form of the future prefix is *ch-*.[11] When these are combined, as in (40), the surface form of the prefix is *ch*: that is, the 1st person agreement prefix has disappeared.

(38) Muënts sëntsotebem.
muënts s-n-ts-o-tebem.
here 1SG.SUBJ-EVI-PROG-TH-sit
'I am sitting here.' (O'Brien 2018:91)

(39) cochantsareparan
c-o-ch-an-ts-a-reparan
2SG-O-FUT-?-PROG-TH-run.fast
'You will run fast' (O'Brien 2018:93)

(40) Chanjuabuá.
Ø-ch-an-j-u-abuá
1SG-FUT-?-VBLZ-TH-cook
'I will cook.' (O'Brien 2018:92)

We analyze this disappearance as being phonological. Evidence for this comes from the 1st person plural agreement prefix. As shown in (41), it has the form *bsë-* (or *fsë-*, subject to variation). Example (42) shows this prefix in combination with the future marker: the surface form of the prefix is *f-*.

(41) Bsëndanmën bëts tabanoc.
bs-nd-a-nmën bëts taban-oc
1PL-HAB-TH-be big village-LOC
'We are/were in a big town.' (O'Brien 2018:96)

(42) As, ¿ndayá bënga **f**chjóyëngacñe ca?
As ndayá bënga fs-ch-j-ó-yëngacñe ca
Thus what 1PL 1PL-FUT-VBLZ-TH-take Q
'What then will there be for us? ' (Matthew 19:27)

This shows that the process responsible for deleting the first person *së-* also deletes the same sequence in the same context for the prefix *bsë-*. In other words, the deletion is sensitive to phonology

[11] O'Brien (2018:123) describes the form of the future as *chan-*. However, as in this example, O'Brien frequently glosses future forms as just *ch*. Furthermore, the author tentatively suggests *chan-* can be further decomposed. As a result, we will be glossing *ch-* as the future morpheme for consistency.

and operates over phonological strings, not morphemes. This suggests the disappearance of 1st singular person agreement in the future is a result of phonology, and not something like tense-conditioned allomorphy.

We analyse this process as following. First, we posit that the underlying form of the 1st singular and plural agreement prefixes are /s/ and /bs/ (or /fs/). Second, in the case that the sequence /s-tS/ arises, the /s/ deletes. This is easily motivated phonologically as a deletion process in response to an illicit sequence of segments. /stS/ does seem to be an illicit sequence in Camsä: only one instance of the sequence can be found in our data, shown in (43). Notably, the *s-* prefix is no longer initial, suggesting that it may avoid deletion in the case that it syllabifies as a coda.

(43) atš cada te natjḗmbana ainánaca ndoñe ceschbatsmëna
atš cada te natjḗmbana ainá=na=ca ndoñe ce-**s**-ch-batsmëna
1SG each day quietly heart=TOP=PART? NEG IRR-1SG-FUT-?
'Each day I am burdened down' (2 Corinthians 11:28)

(44) also shows an instance of the 1sg person subject prefix appearing word-initially without ë.

(44) Bëngbe Bëtsá entsonÿá atše ndegombre stsichámuama.
bëng-be bëtsá e-n-tsonÿá atše ndegombre s-ts-i-chámua-ma
1PL-GEN father 3SG?-EVI?-? 1SG true 1SG.SUBJ-PROG-TH-say-BEN
'God is my witness.' (2 Corinthians 1:23)

Assuming that this instance of *ts* is a true affricate and thus a single segment (O'Brien 2018:44), we take this example as showing that epenthesis only occurs in particular sequences of 3 consonants. Sequences of 3 consonants are permissible (O'Brien 2018:45), so the nature of the segments must have to do with the epenthesis. We leave formulating this process precisely to future work.

5.2 Agreement with 3rd Person Arguments

In (38), the verb marks agreement with the 1st person singular subject of the clause with the prefix *s-*. Examples (45) and (46) show that the same prefix is used in a transitive sentence with a 1st person singular agent and a 3rd person singular patient.

(45) Cadaté atš sënduabuán uameshnen.
cadaté atš s-nd-u-abuán uameshnen
everyday 1SG 1SG.SUBJ-HAB-TH-cook mote
'Every day, I cook moté (hominy soup).' (O'Brien 2018:91)

(46) Tonjapasais atš sënjanguango tsjan
tonjapasaibs atš **s**-n-j-a-nguango tsjan
yesterday 1SG 1SG.SUBJ-EVI-VBLZ-TH-seek guinea.pig
'Yesterday I looked for the guinea pig.' (O'Brien 2018:108)

These examples show two things. First, Camsá agreement seems to exhibit nominative-accusative alignment: the sole argument of an intransitive patterns with the more agentive argument of a transitive. Second, third person themes are not agreed with. This is not a question of animacy: (47) shows that 3rd person animate patients are not agreed with.

(47) Tonjapasaibs sënjachemb atsb̈e enuta
tonjapasaibs s-n-j-a-chemb ats-̈be enuta
yesterday 1SG-EVI-VBLZ=TH-call 1SG-GEN friend
'Yesterday I called my friend.' (O'Brien 2018:109)

In the case of a 3rd person agent and a 1st person patient, the agreement prefix is *s̈-*, as shown in (48). However, this prefix also surfaces in (49), where there the 1st person is the sole argument of the verb.

(48) ch basatem atš s̈onjapega base ndëtš̈bemac
ch basa-tem atš s̈-o-n-j-a-pega base ndëtš̈-be-ma=c
DET small-DIM 1SG 1SG.OBJ-O-EVI-VBLZ-TH-hit small rock-CL-DIM=INST
'The boy hit me with the small rock.' (O'Brien 2018:110)

(49) s̈ojtsebubua kausna ndoñ chiyatobená jtan
s̈-o-j-tsebubua kaus=na ndoñ chiy-at-o-bená j-tan
1SG.OBJ-O-VBLZ-be.drunk because=TOP NEG COND-IRR-TH-be.able VBLZ-go.again
'Because I was drunk I couldn't return.' (O'Brien 2018:111)

	AGENT		
PATIENT	**1**	**2**	**3**
None	*s-*	*co-*	*i-,to-*
1	N/A	*s̈co-*	*s̈o-*
2	*cbo-*	N/A	*co-*
3	*s-*	*co-*	*i,to-,tbo-*

Table 1: Basic Agreement Paradigm for Singular Arguments

O'Brien (2018:111) describes the class of intransitive verbs taking objective markers as having experiencer subjects. This suggests the agreement markers actually display a Split-S alignment; however, these verbs are relatively infrequent, and so will not be addressed due to lack of data. The relevant result from this data is that 3rd person agents are also invisible to agreement in transitive contexts, since the 3>1 prefixes are used in certain intransitive contexts with patient-like 1st person arguments. As a result, we take *s̈-* to represent a 1st person object, and not a 3>1 transitive configuration.

5.3 The *o* Vowel in Agreement and Transitive Breakdowns

As visible from some of the examples in previous sections, several agreement markers end with an *o*. O'Brien (2018:105) summarizes this as follows: *"All of the prefixes that encode subject and object end in o-, so this could perhaps be analyzable as something to do with transitivity, but it also appears in intransitive verbs"*. Table 1 summarizes the combinations of singular arguments.[12] However, there are several instances of these prefixes, transitive or intransitive, occuring without o. Examples (50) and (51) show the 2nd person singular suffix surfacing as *c-* instead of *co-*:

(50) Cektseboše bënga fchayá chë bacna shácuana jetsejashtsëtsama ca?
ce-**c**-tseboše bënga fs-ch-ay-á chë bacna shácuana j-etse-jashtsëtsa-ma ca
IRR-2SG-wish 1PL 1PL-FUT-?-go DET bad grass VBLZ-?-uproot-BEN Q
'Do you want us to go out and pull up the weeds? ' (Matthew 13:28)

(51) Céctsetatsëmbo, ntsamo tconjayanama chë fariseunga ndoñe tsabá
cé-**c**-tsetatsëmbo ntsamo t-c-o-n-j-ayana-ma chë farise-unga ndoñe tsabá
IRR-2SG-know how PST-2SG-O EVI-VBLZ-say-BEN DET Pharisee-PL NEG good
chenatëuénana ca?
ch-e-n-at-ëu-énana ca
FUT?-?-EVI-NEG-word?-hit.hard Q
'Do you know you insulted the Pharisees by what you said? ' (Matthew 15:12)

Example (52) shows that the agreement prefix for 1st person subject and 2nd person object, which normally surfaces as *cbo-*, can appear as *cb-*.

[12] 3rd person arguments seem to be subject to tense variance (O'Brien 2018:94). However, as 3rd person arguments seem invisible to transitive agreement, accounting for their exact distribution is difficult, and we put it aside.

(52) aca condétatsëmbo bueta uata cbetsajabuáchanama, nÿets
aca c-o-nd-ét-atsembo bueta uata **cb**-e-ts-a-j-abuáchana-ma nÿets
here 2SG-O-EVI-?-offer.gift how.many year 1SG>2SG-?-PROG-?-VBLZ-go.to.someone-BEN total
tempo cbetseyeunanama
tempo **cb** e-tseyeunana-ma
time 1SG>2SG-?-follow.orders-BEN
'For years I have worked for you like a slave and have always obeyed you.' (Luke 15:29)

The identity of the *e* vowel that follows in this example is unclear. However, the shared sequence is still *cb-*.

O'Brien (2018:106) identifies a form of the 3rd person subject to 3rd person object as *bo-*. In (53), the prefix occurs as *bë-*. The vowel matches the distribution and quality as the epenthetic vowel identified in a previous section, so we will analyze this morpheme as just *b-*. However, this example is unusual because this verb is intransitive (Juajibioy 2018:127), and there do not seem to be two arguments.

(53) Ntseco orscana tbënjatëcja ca?
ntseco orscana t-**b**-n-j-atëcja ca
when since PST-3SG?-EVI VBLZ-make.sensation.disappear Q
'Since when is he better? ' (John 4:52)

In (54), the prefix marking 2nd person subject and 1st person object, usually identified as *s̈co-*, surfaces as *s̈c-*.

(54) Ndocna te s̈catjuashecjabiá ca!
ndocna te **s̈-c**-at-j-ua-shec-jabiá ca
no.one day 1SG.OBJ-2SG-NEG-VBLZ-TH-foot-wash Q
'You will never wash my feet! ' (John 13:8)

Note that the *o* has not disappeared to resolve hiatus: in the sequence /oa/, the *o* seems to surface as a glide, as in the form in (55).

(55) canÿe ndëtsbé chábioye buanjatstaye
canÿe ndëtsbé chá-bioye b-o-a-n-j-atstaye
one rock 3SG-ALL DU-O-EVI-VBLZ-give
'You give him a rock' (O'Brien 2018:233)

In (56), the prefix for 3rd person subject and 1st person object surfaces as *s̈-*.

(56) cha bënga s̈nétsayaunanama
cha bënga **s̈**-n-étsay-aunana-ma
3SG 1PL 1SG.OBJ-EVI say?-hear-BEN
'He will hear us.' (1 John 5:14)

However, even though all the prefixes labelled as ending with *o* can appear without it, it is not the case that those labelled as appearing without *o* can appear with it. The 1st person agreement prefixes *s-* and *fs*do not appear with *o* in the data. Thus, it is likely that this vowel is relevant to the agreement paradigm in some way, and is not something like another TAME marker. We present a tentative explanation of its nature in the following section.

With the o vowel separable from the prefixes, decomposing the transitive prefixes becomes simpler. We update the paradigm from Table 1 in Table 2. The visible components are listed in Table 3[13]. Further analysis is required to fully account for the order of prefixes, idiosyncracies such as 1sg>2 *cb-*, and the full distribution of number marking. We leave this to future work.

	AGENT		
PATIENT	**1**	**2**	**3**
None	*s-*	*c-*	*i-,Ø-*
1	N/A	*s̈c-*	*s̈-*
2	*cb-*	N/A	*c-*
3	*s-*	*c-*	*i-, -,b-*

Table 2: Updated Agreement Paradigm for Singular Arguments

MEANING	**FORM**
1sg.subj	*s-*
1sg.obj	*s̈-*
2sg	*c-*
3sg	*i-*

Table 3: Visible Transitive Components

5.4 Towards an Analysis of the *o* Vowel

Having established the independence of the *o* from the agreement prefixes, it remains to explain exactly its function. The paucity of forms lacking *o* makes a complete analysis beyond the reach of this

[13] O'Brien (2018:106) identifies essentially these same morphemes as well, but does not account for the lack of o in some cases.

paper. However, we present the following sketch: the absence of o within the agreement prefixes appears to be correlated with the presence of an incorporated noun.[14]

The clearest example are as follows. In (57), repeated from (54), ”foot” has been incorporated into ”wash”. In (58), ”eye” has been incorporated into ”wash”. However, in this analysis, ”eye” has also been incorporated into the word *s̈onjabuchanëtjo*, with an unclear verb. This verb complex appears with o, weakening this analysis. Verifying this exception is complicated by the fact that (i) the verb is unattested and (ii) the incorporated noun is ”eye”, which, as discussed in Section 4, incorporates suppletively.

(57) Ndocna te s̈catjuashecjabiá kca!
ndocna te s̈-c-at-j-ua-**shec**-jabiá ca
no.one day 1SG.OBJ-2SG-NEG-VBLZ-TH-foot-wash Q
‘You will never wash my feet! ‘ (John 13:8)

(58) Y cha tojanéjua: Chë boyabása, Jesús ca uabainá, ngüiche yebuáyeca
y cha t-o-j-anéjua chë boyabása Jesús ca uabainá ngüiche y-ebuáyeca
and 3SG PST-O-VBLZ-answer? DET man Jesus PART called mud 3SG-?
tonjábema, s̈onjabuchanëtjo y s̈onjauyana:
t-o-n-j-ábema s̈-o-n-j-a-**buch**-anëtjo y s̈-o-n-j-auyana
PST-O-EVI-VBLZ-make 1SG.OBJ-O-EVI-VBLZ-TH-eye?-apply? and 1SG.OBJ-?-EVI-VBLZ-tell
“Motsa y Siloé uafjajónayiñe metsobúchjabebiye ca”. Chcasna, atsë
m-o-ts-a y Siloé uafjajónay-i-iñ-e m-e-ts-o-**búch**-jabebiye ca chca-s=na atsë
IMP-O-PROG-go and Siloam lake-CL-ILL-? IMP-?-PROG-TH-eye?-wash PART thus-?=TOP 1SG
sënjá, ënjetsobúchjabebiye y cachora s̈ontsabinÿna
s-n-j-á ë-n-j-etso-**búch**-jabebiye y cach=ora s̈-o-n-ts-a-binÿna
1SG.SUBJ-EVI-VBLZ-go ?-EVI-VBLZ?-eye?-wash and same=moment 1SG.OBJ-O-EVI-PROG-TH-see
ca.
ca
PART
‘He answered, “Someone named Jesus made some mud and smeared it on my eyes. He told me to go and wash it off in Siloam Pool. When I did, I could see.‘ (John 9:11)

This exemplifies the difficulty with testing this hypothesis, and something which was mentioned in Section 4: the component pieces of the stem are not always transparent. The previous example showed unknown verbs: there are also instances of unknown nouns. The pairs in (59) and (60), as well as (61) and (62), show two similar verbs. The only difference in the stem in each case is the addition of the string -*yeu*in incorporating position.

[14] Thank you to Ina Zeng for noticing this pattern.

(59) jua**yeu**enatjëmbán
j-ua-yeuenatjëmbá-n
VBLZ-TH-disappear.sound-INF
‘To disappear a voice or sound‘ (Juajibioy 2018:201)

(60) juenatjm̈bán
j-u-enatjëmbá-n
VBLZ-TH-disappear-INF
‘To disappear‘ (Juajibioy 2018:203)

(61) joyeunayán
j-o-yeunayá-n
VBLZ-TH-obey-INF
‘To obey‘ (Juajibioy 2018:167)

(62) jenayán
j-e-nayá-n
VBLZ-TH-tie-INF
‘To tie‘ (Juajibioy 2018:137)

Examining the meanings also reveals a pattern: (59) and (60) share the action of disappearing, modulo the concept of a sound or voice. If we take *-yeu-* as ”voice” incorporating, then the meaning of ”obey” can derived idiomatically as ”tie voices”. With this analysis, we can re-examine the form in (52) that does not contain o, shown in (63).

(63) aca condétatsembo bueta uata cbetsajabuáchanama, nÿets
aca c-o-nd-ét-atsembo bueta uata cb-e-ts-a-j-abuáchana-ma nÿets
here 2SG-O-EVI-?-offer.gift how.many year 1SG>2SG-?-PROG-?-VBLZ-go.to.someone-BEN total
tempo cbetseyeunanama
tempo cb-e-ts-e-**yeu-nana**-ma
time 1SG>2SG-?-PROG-TH-voice-tie-BEN
‘For years I have worked for you like a slave and have always obeyed you.‘ (Luke 15:29)

Thus, the predictions about the distribution of this vowel seem to uncover new nouns. However, it also shows the difficulty in testing this hypothesis. Verb stems can be relatively opaque, and incorporating nouns quite small. However, this also suggests another indicator for the lack of o: verb complexity. The other noun without o in (63) is translated as ”go to someone” by Juajibioy (2018:99). Semantically, this seems to be a more complicated action, as such it also might be a complex verb stem.

To summarize, the vowel *o* that is normally grouped with the agreement prefixes appears to be separable. Moreover, at a first approximation, its absence correlates with the presence of an incorporated noun. Much more analysis is required to confirm this pattern as true, false, or due to a deeper cause.

6 Conclusion

Our exploration of Camsá morphology has resulted in possible solutions to some puzzles, starting points for new exploration, and some further questions of how to analyze its structure. Focusing on a select three puzzles, we came to the following conclusions. First, alternation between the form of adjectives in pre-nominal and post-nominal position reflects an alternation between a syntactic structure and a adjective-noun compound. Second, there is a process of noun incorporation at work within the verbal morphology. Third, the agreement prefixes further decompose into agreement and a vowel *o*, which tracks the presence of incorporated nouns. However, all three of these conclusions require further testing and analysis. As such, we have included some predictions from these analyses in an aim to ease future work. Overall, there are many avenues by which further research into Camsá can further understanding of the language and languages in general.

References

Bëngbe Bëtsa Cabëngaftaca Entsoyebuambna - El Nuevo Testamento en el idióma camsá (2009). The New Testament in the Camsá Language. Wycliffe Bible Translators. url: https://www.scriptureearth.org/data/kbh/PDF/00-WNTkbh-web.pdf.

Bittner, Maria and Ken Hale (1996). "The Structural Determination of Case and Agreement". In: *Linguistic Inquiry* 27.1, pp. 1–68. issn: 00243892, 15309150. url: http://www.jstor.org/stable/4178925 (visited on 04/21/2025).

Dryer, Matthew S. (1986). "Primary Objects, Secondary Objects, and Antidative". In: *Language* 62.4, pp. 808–845. issn: 00978507, 15350665. url: http://www.jstor.org/stable/415173 (visited on 04/18/2025).

Halle, Morris and Alec Marantz (1993). "Distributed morphology and the pieces of inflection". English (US). In: *The view from building 20*. Ed. by K Hale and S.J. Keyser. The MIT Press, pp. 111–176.

Juajibioy, Juan Bautista Jacanamijoy (2018). *DICCIONARIO BILINGÜE - CAMËNTSÁ: ESPAÑOL ESPAÑOL: CAMËNTSÁ*. SIL International.

O'Brien, Colleen Alena (2018). "A grammatical description of Kamsá: A language isolate of Colombia". PhD thesis. Honolulu: University of Hawai'i at Mānoa, pp. xiii+265.

– (July 2021). "A Typological Sketch of Kamsá, a Language Isolate of Colombia". In: *Forma y Función* 34. doi: 10.15446/fyf.v34n2.88673.

Appendix A: Leftover Examples

This section contains examples that were glossed in the process of analyzing the data and testing predictions, but were not used in the final presentation. Given the scarcity of parsed data in this language, we have opted to collect these leftovers in this appendix.

(64) Atše jëtschuayama bayënga chešmënjanëbaye y chë soyënga chešmënjanátsëmbona,
atše j-ëtschuaya-ma bay-ënga chešmënjanëbaye y chë soy-ënga chešmënjanátsëmbona
1SG VBLZ-offer.tribute-BEN animal-PL ? and DET thing-PL ?
chë canta bnét́sana uata entšanga ndoyena luarentše tsëngaftanga šmonj§eftsemna ora?
chë canta bnét́sana uata entša-nga ndoyena luarentše tsëngaftanga šmo-n-j-§eftsem-na ora
DET four ten year person-PL where land 2PL 2PL-EVI-VBLZ-work?-INF when
'You didn't offer sacrifices and offerings to me during those 40 years in the desert.' (Acts 7:42)

(65) Chentšna, Jesús chabe uatsjéndayëngaftaca tojanoluaré mar béjaye tsachoye
chentša=na Jesús cha-be uatsjéndayë-ng-aftaca t-o-j-an-oluaré mar béjaye tsachoye
there=TOP Jesus 3SG-GEN student-PL-COM PST-3SG?-VBLZ-?-go.leave lake water valley?
'Jesus led his disciples down to the shore of the lake.' (Mark 3:7)

(66) Mënté šmiyatšatá cada te šnetsëjaboto tandëše.
mënté š-m-iy-atš-atá cada te š-netsëja-boto tandëše
today 1SG.O-IMP-?-gift-provision every day 1SG.O-?-be.short bread
'Give us our food for today.' (Matthew 6:11)

(67) y cha nÿetsca soy-ënga š-n-etsatšatnaye
y cha nÿetsca soy-ënga š-n-e-ts-atša-tnaye
and 3SG all thing-SC 1SG.O-EVI-?-PROG-gift-give
'He gives everything else to all people.' (Acts 17:25)

(68) Chë tempo, unga uata y tsét́ntsañe nÿetšá ndoñe tonjanafté y bëts shëntsana
chë tempo unga uata y tsét́ntsa-ñe nÿetšá ndoñe t-o-n-j-an-afté y bëts shëntsana
DET time three year and half-? all NEG PST-?-EVI-VBLZ-?-rain and great hunger
chë luariñe yojtsebinÿna.
chë luar-iñe y-o-j-tsebinÿna
DET land-ill 3SG?-?-VBLZ-illuminate
'there was no rain for three and a half years, and people everywhere were starving' (Luke 4:25)

(69) atsë cbochanjábiama Bëngbe Bëtsabiama entšang anguayata
atsë **cbo**-chan-j-ábiama Bëngbe Bëtsabiama entša-ang anguayata
1SG 1SG>2SG-FUT-VBLZ-weave? our father person-PL ?
'I will make you fishers of men (I will make you find those for God?)' (Matthew 4:19)