The Interaction of Reduplication with Word Classes and Transitivity in Cavineña

Chapter · January 2014

DOI: 10.1163/9789004272415_013

1 author:

Antoine Guillaume
French National Centre for Scientific Research
30 PUBLICATIONS **279** CITATIONS

CHAPTER 12

The Interaction of Reduplication with Word Classes and Transitivity in Cavineña

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Antoine Guillaume

This paper discusses the reduplication processes that are at work in Cavineña, a Tacanan language from Amazonian Bolivia. This language presents a wide range of different reduplication processes which have the following main characteristics: they can be simple or automatic, full or partial; they apply mostly to verbs, nouns and adjectives; they have different degrees of productivity; they are phonologically rather easy to describe. In addition to being pervasive, the morphological processes of reduplication in Cavineña are noteworthy for having several syntactic effects, an aspect of reduplication rarely discussed in general typological works on reduplication; these tend to focus on phonological and semantic characteristics. A particularly interesting syntactic function of reduplication in Cavineña is valence reduction with antipassive effect, which occurs when reduplication applies to transitive verbal roots.

1 Introduction

Cavineña is a language from the small Tacanan family, which also consists of Araona, Ese Ejja, Reyesano and Tacana. It is spoken by 1,000~1,200 people in numerous communities scattered throughout the lowlands of northern Bolivia, a region corresponding to the southwestern border of the Amazon basin.

Cavineña displays a wide range of different reduplication processes,[1] distinguished according to the following formal parameters: the formal realization of reduplication (simple or automatic,[2] full or partial), the word class of the base

1 A few of the patterns discussed in this paper correspond to what is sometimes called 'inherent reduplication,' in that they involve forms for which there is no unreduplicated base. Strictly speaking, according to the Graz Reduplication Project's definition (see http://reduplication.uni-graz.at/), these patterns do not qualify as 'true reduplication.' See Epps (this volume) and Goodwin Gómez (this volume) for a discussion of similar patterns in Hup and Yanomae, respectively.

2 "Simple" reduplication means the straightforward reduplication process that only involves

 | DOI: 10.1163/9789004272415_013

and/or the reduplicated word (verb, adjective, noun, quantifier, postposition), and the transitivity and inflectional status of the base and/or the reduplicated word when verbs are involved. As summarized in Table 2 (section 4), these parameters can combine in 13 possible ways.

These reduplication patterns were first described in different sections of my grammar of Cavineña (Guillaume 2008), which is based on primary data (fieldnotes and texts) that I collected over 15 months of fieldwork between 1996 and 2003 in the town of Riberalta and in two traditional communities (Galilea and Misión Cavinas), and complemented by secondary data published by SIL missionaries Elisabeth Camp and Millicent Liccardi. The present work, which is based on the same material, has the goal of discussing all the reduplication patterns in one place, in order to gain a better understanding of reduplication as a general process in Cavineña. It is also intended to provide a more in-depth characterization of certain reduplication processes and to draw attention to the syntactic function of reduplication in this language.

The paper is organized as follows: Section 2 provides the phonological and morphosyntactic backgrounds necessary to understand the effects of reduplication in Cavineña, with information on word classes, transitivity, predicate structure, and grammatical functions. Section 3 presents an overview of each of the 13 reduplication patterns, listing the main parameters that are used to distinguish one from the other. Section 4 provides a detailed presentation of the most interesting patterns, namely the four applying to verbs. The article ends with a conclusion and a table that summarize the main characteristics of reduplication in Cavineña.

2 Phonological and Morphosyntactic Background

Cavineña has a relatively simple phonological system. Most phonemes do not display any significant allophonic variations. The Cavineña vowel phonemes are *i*, *e* (with allophones [e] and [ɛ] in free variation), *a* and *ʊ* (written *u*, with allophones [ʊ] and [o] in free variation). The Cavineña consonant phonemes are *p*, *b*, *t*, *d*, *c* (voiceless alveo-palatal stop, written *ty*), *ɟ* (voiced alveo-palatal stop, written *dy*), *k*, *kw*, *ts* (voiceless alveolar affricate), *tɕ* (voiceless alveo-palatal affricate, written *ch*), *s*, *ɕ* (voiceless alveo-palatal fricative, written *sh*),

the repetition of material that is already present in the unreduplicated base. "Automatic" reduplication, a term taken from Rubino (2005), means a reduplication process that is "obligatory in combination with another affix, and which does not add meaning by itself to the overall construction" (Rubino 2005, 18).

h (written *j*), *ɺ* (alveolar lateral flap, written *r*), *ʎ̆* (alveo-palatal liquid, written *ry*), *m*, *n*, *ɲ* (written *ny*), *w* (with allophones [w] before *a* and [ɸ̞] before *i* and *e*) and *j* (written *y*). The syllable structure is (C)V. The phonological word is minimally disyllabic. As a result monosyllabic roots used without an additional affix or clitic must take an epenthetic suffix *-u*, as in *bá-u* 'see-EPEN' and *bé-u* 'bring-EPEN.' As we will see below, this happens in one of the reduplication processes. The phonological word is the domain of application of the accentual system, realized by a non-contrastive pitch accent which functions as follows: (1) the first syllable of a phonological word receives a high pitch, (2) the final two syllables receive a mid pitch (only the last syllable if it is a disyllabic word), and (3) the high pitch of the first syllable extends rightwards to any syllable(s) preceding the last two syllables (e.g., *béta* 'two,' *mátuja* 'yacare caiman,' *jútákiju* 'therefore,' *wésá-tána-tsu* 'lift-PASS-ss,' etc.).

The word classes of the language are listed in Table 1. They have been identified according to semantic and morphosyntactic criteria (see discussion in Guillaume 2008, chapter 4).

TABLE 1 *Cavineña word classes* (*Guillaume 2008, 62*)

Type	**Class**
Lexical: open	Verbs
	Predicative adjectives
	Nouns
Grammatical: closed	Verb modifiers
	Attributive adjectives
	Number markers
	Quantifiers
	Postpositions
	Pronouns
	Demonstratives
	Content question words
	Particles
	Subordinate clause markers
	Coordinators
Semi-open	Interjections
	Onomatopoeias

The morphological structure of verbs is highly elaborate, with a maximum extension of up to 11 structural slots. However, it is strongly agglutinative and very few morphemes display allomorphic variants. By contrast, the other word classes (nouns, predicative adjectives, pronouns and demonstratives) take very few affixes or no affixes at all.

Cavineña verbs have strict transitivity values: they are either transitive or intransitive. Apart from a handful of exceptions, there are no ambitransitive verbs. This rigid lexical transitivity is reflected at various levels of morphosyntactic organization. There is consistent ergative case marking on the subject argument of transitive verbs. There are special allomorphs of verbal affixes which agree in transitivity with the verb root or verb stem they attach to (e.g., the completive suffix is *-tere* on intransitive roots and *-tirya* on transitive roots). In auxiliary constructions, speakers must make a choice between an intransitive and a transitive auxiliary, depending on the transitivity of the predicate. In fact, the language requires special verbal morphemes (passive, reflexive/reciprocal, antipassive) or constructions in order to change transitivity.

Verbs differ according to whether they are inflecting or non-inflecting. Inflecting verbs directly carry the (verbal) morphology and form one-word (simplex) predicates. A simplex predicate minimally consists of a verb root and a TAM (Tense, Aspect, Mood) inflection, as shown in (1a-b). However, such predicates can also be polysynthetic, involving an incorporated (body part) noun and numerous non-inflectional affixes, principally suffixes, between the root and the TAM inflection. These non-inflectional suffixes may express aspect, manner, modality, posture, motion, valence-change, etc.

(1) a. Intransitive clause
Jutakiju iba diru-kware.
therefore jaguar go-REM.PAST
'Therefore the jaguar went away.' (Tavo Mayo 1977, 28)

b. Transitive clause
Iba=ra=tu[3] *iye-chine takure.*
jaguar=ERG=3SG kill-REC.PAST chicken
'The jaguar killed the chicken.' (elicited)

3 Cavineña has two types of enclitics: clause level enclitics, which occur in second position in a clause, e.g. *=tu* '3SG', and phrase level enclitics, which attach to the last word of a phrase, e.g. *=ra* 'ERG', which precedes *=tu* in this same example.

Non-inflecting verbs cannot carry (verbal) morphology. They require a generic auxiliary (light verb) to form a two-word (complex) predicate. The auxiliary is either *ju-* 'be,' if the non-inflecting verb is intransitive, or *a-* 'affect' if it is transitive, as in (1a-b).

(2) a. Intransitive complex predicate
Santiago=tu katewa ju-wa.
Santiago=3SG hide be-PERF
'Santiago hid.' (elicited)

b. Transitive complex predicate
Epuna=ra endya a-kware [*peya ekwita*].
woman=ERG say.yes.to affect-REM.PAST other person
'The woman said yes to another man.' (elicited)

Cavineña has two classes of adjectives: predicative adjectives, which function as a copula complement in copula clauses, as in (2), and attributive adjectives, which function as a modifier to the head of a NP.

(3) *Ari-da ju-kware aja.*
big-ASF be-REM.PAST capuchin.monkey
'The capuchin monkey was big.'[4]

Predicative adjectives are further subdivided according to morphological criteria. There is a subclass of bound forms, called *da*-adjectives, which must take an affix, as in (2). There is also a subclass of independent forms which do not require an affix. Predicative adjectives are syntactically similar to intransitive non-inflecting verbs. The copula used with them is *ju-* 'be,' which is also used as a generic auxiliary for non-inflecting verbs (discussed above). Despite this similarity, predicative adjectives and intransitive verbs do differ in a number of ways, which suggests that they are better analyzed as different word classes (see Guillaume 2008, 161–162).

Nouns represent the third open lexical class. The noun class consists of three subclasses which differ according to semantic and morphological properties. There is a subclass of bound nouns that refer to parts of a whole (of the body or other entities) and that obligatorily take a dummy prefix *e-* (e.g., *e-biti*

4 When no indication of the source of an example is provided, the example comes from my own textual, conversational, or participant observation corpus.

'NPF-skin'), a subclass of bound nouns which refer to kinship relations and that are obligatorily marked for their 'possessor' (e.g., *e-tata=ke* [3-father=3] 'his father'), and a class of grammatically independent nouns that refer to any other nominal concept (e.g., *iba* 'jaguar').

Cavineña encodes the grammatical functions of the arguments (S, A, O)[5] by way of a case-marking system combined with a system of personal clitics in the second position in the clause. As we can see in (1a,b) and (2a,b), both systems operate according to an ergative pattern: S and O arguments are unmarked, while A receives a special ergative case enclitic (or suffix in the case of person markers).

The core arguments are not obligatorily expressed. When they are expressed, their position in the clause is grammatically free and does not participate in the disambiguation of the grammatical functions.

3 Reduplication in Cavineña: An Overview

This section contains an overview of the 13 reduplication processes found in Cavineña. This section is subdivided into three subsections based on the distinction between full (3.1.) and partial (3.2.) reduplication, and between simple (3.1, 3.2) and automatic (3.3) reduplication (see footnote 2). The reduplication processes that involve verbs, which are the most productive, are discussed only briefly in this section but are covered in full detail in section 4.

3.1 *Simple Full Reduplication*

Depending on the word classes involved and the resulting semantic effects, simple full reduplication has been sorted into nine different types.

There are three full reduplication processes that involve verbs as the base. The first two produce a derived verb as the output while the third derives a noun. The two processes that derive verbs differ in the way they affect the transitivity or the inflectional properties of the base. The first process (numbered I in Table 2) only applies to transitive verbs and derives intransitive verbs with an antipassive sense, denoting a culturally-codified activity.

5 S = subject of an intransitive verb, A = subject of a transitive verb, O = object of a transitive verb.

(4)

Verb (transitive)		Verb (intransitive)	
ara-	'eat O'	*ara~ara-*	'eat, have a meal'
baju-	'toast O'	*baju~baju-*	'toast'
ba-	'see O'	*ba-u*[6]*~ba-u-*	'see'
eri-	'grind O'	*eri~eri-*	'grind'
iji-	'drink O'	*iji~iji-*	'drink, have a drink'
itusha-	'push O'	*itusha~itusha-*	'push'
susu-	'suck O'	*susu~susu-*	'suck' (e.g., a baby)
taka-	'peel O'	*taka~taka-*	'peel'
tya-	'give O'	*tya-u*[6]*~tya-u-*	'give'
utsa-	'wash O'	*utsa~utsa-*	'wash, do the laundry'
uwa-	'plant O'	*uwa~uwa-*	'plant'
		etc.	

The second process (II) applies both to intransitive and transitive verbs. It derives a new verb which retains its original valency but becomes non-inflecting. The reduplicated verb can only be used in a complex predicate with a following generic auxiliary for carrying the verbal affixes. The meaning conveyed by this process is the multiple repetition of the event expressed by the verb.

(5)

Verb (inflecting)		Verb (non-inflecting)	
je-	'come'	*je-u*[6]*~je-u* (*ju-*)	'come repeatedly'
keke-	'shout'	*keke~keke* (*ju-*)	'shout repeatedly'
kueti-	'pass'	*kueti~kueti* (*ju-*)	'pass repeatedly'
kwinana-	'emerge'	*kwinana~kwinana* (*ju-*)	'emerge repeatedly'
tsajaja-	'run'	*tsajaja~tsajaja* (*ju-*)	'run repeatedly'
ikwaya-	'miss O'	*ikwaya~ikwaya* (*a-*)	'miss O repeatedly'
iwara-	'call O'	*iwara~iwara* (*a-*)	'call O repeatedly'
miri-	'strike O'	*miri~miri* (*a-*)	'strike O repeatedly'
tsaje-	'cut O'	*tsaje~tsaje* (*a-*)	'cut O repeatedly'
		etc.	

6 *u* is an epenthetic vowel used in full reduplication when the reduplicant is monosyllabic (see section 2).

These two processes have a high degree of productivity. They will be discussed at greater length in section 4.

The third full reduplication process (III) that applies to a verb base derives an independent noun as the output. This mechanism is not productive, accounting for only six words in the available corpus. The resulting meanings are not fully predictable, although the nouns all refer to entities which involve in some way the multiple repetition of the action of the verb they are derived from. This reduplication pattern will not be further discussed in this paper.

(6)

Verbs (inflecting)		Noun (independent)	
jeru-	'sing'	*jeru~jeru*	'song'
tsa-	'laugh'	*tsa~tsa*	'cacaré bird'
busa	'open O'	*busa~busa*	'glow-worm'
kuja-	'blow air into O'	*kuja~kuja*	'balloon'
puru-	'dig O'	*puru~puru*	'ibis-like wading bird'
wene-	'draw/write O'	*wene~wene*	'letter'

There is an additional full reduplication process (IV) that applies to the subclass of bound predicative adjectives. Recall that predicative adjectives are used as a complement in copula clauses (not as a modifier in a NP) and that there is a bound subclass and an independent subclass of predicative adjectives. The reduplicated form remains a predicative adjective,[7] but it becomes independent (it does not require an affix). The meaning conveyed by this process is the spatial or temporal distribution of the property expressed by the adjectival base. In some cases, the meaning is attenuative.[8]

(7)

Predicative adjective (bound)		Predicative adjective (independent)	
apu-	'dark'	*apu~apu*	'dark in different places'
ari-	'big'	*ari~ari*	'bigger and bigger'
ɨwi-	'smelly'	*ɨwi~ɨwi*	'a bit smelly'
jawa-	'yellow'	*jawa~jawa*	'yellowish'

7 There is one exception, involving the bound predicative adjective *ʉyu-* 'muddy,' whose full reduplication yields an (independent) noun, *ʉyu~ʉyu* 'mud,' and not an independent predicative adjective.

8 Note that no examples are available of this reduplication process applied to mono- and trisyllabic roots.

Predicative adjective (bound)		Predicative adjective (independent)	
juji-	'fat'	*juji~juji*	'chubby'
kasa-	'strong'	*kasa~kasa*	'a bit strong'
naka-	'wet'	*naka~naka*	'a bit wet, with little wet spots'
pude-	'red'	*pude~pude*	'reddish'
sawa-	'green/blue'	*sawa~sawa*	'greenish/bluish'
sewe-	'black'	*sewe~sewe*	'blackish'
weka-	'bright'	*weka~weka*	'bright in different places'
		etc.	

This process, although also highly productive, will not be further discussed in this paper.[9]

The next two full reduplication patterns apply to nouns. Recall that there are three subclasses of nouns: bound *e*-nouns that express part-whole relations, bound nouns that express kinship relations and independent nouns. The first full reduplication process (V) can apply to both bound *e*-nouns and independent nouns, turning them into independent predicative adjectives that express the notion of 'having many X' (X being the referent of the noun expressed by the nominal base).[10]

(8)

Noun		Predicative adjective (independent)	
-kwija	'thorn'	*kwija~kwija*	'having many thorns'
-nawa	'down'	*nawa~nawa*	'having a lot of down'
-tiri	'root'	*tiri~tiri*	'having many roots'
-tsaru	'hair'	*tsaru~tsaru*	'having a lot of hair'
-wachi	'foot'	*wachi~wachi*	'having many feet'
benu	'bend'	*benu~benu*	'having many bends'
buje	'stain'	*buje~buje*	'having many stains'
chiwe	'nigua'[11]	*chiwe~chiwe*	'having many niguas'

9 For more details, see Guillaume (2008, chapter 11, in particular section 11.2.2).

10 Note that no examples are available of this reduplication process applied to mono- and trisyllabic roots.

11 Type of parasitic flea ('sand flea,' 'chigoe' or 'jigger,' *Tunga penetrans*). The female burrows into the exposed skin of people's and animals' feet, and remains there while eggs develop, sometimes causing intense irritation.

Noun		Predicative adjective (independent)	
jibi	'wrinkle'	*jibi~jibi*	'having many wrinkles'
kani	'hole'	*kani~kani*	'having many holes'
kwesa	'facial hair'	*kwesa~kwesa*	'having a lot of facial hair'
		etc.	

This mechanism is very productive. Like the previous reduplication process, it will not be further discussed in this paper.[12]

The second full reduplication pattern (VI) that applies to nouns does not yield adjectives but nouns. This process is not productive. In the available corpus, it only applies to three nouns, which belong to the independent subclass, turning them into new independent nouns. The meaning expressed by this reduplication process is slightly different from one noun to the other. It seems to express 'something made out of many X' in the case of 'alphabet' (and perhaps also in the case of 'picture, photo') and 'something of less importance than X' in the case of 'idol' (X being the referent of the noun expressed by the unreduplicated nominal base).

(9)

Noun (independent)		Noun (independent)	
kweya	'form, spirit'	*kweya~kweya*	'picture, photo'
nusa	'small mark in a repetitive pattern'	*nusa~nusa*	'alphabet'
Yusu	'God (< Spanish *Dios*)'	*yusu~yusu*	'idol'

The seventh full reduplication pattern (VII) is not productive synchronically either. It belongs to the domain of onomatopoeia and ideophones. The reduplicated forms are nouns which most often refer to animals or entities with salient sonorous or rhythmic characteristics. This pattern corresponds to inherent reduplication in that no unreduplicated base can be identified. Synchronically, according to the Graz Reduplication Project's definition, this pattern is not 'true' reduplication, for the reason that it does not involve "a set of at least two linguistic forms F and F' in a paradigmatic morphological relation." For this reason, the reduplicated forms listed below are not segmented. Although not productive, the pattern is attested in a fair number of items in the available corpus (about 30) and the items show semantic regularities (onomatopoeia and

12 For more details, see Guillaume (2008, chapter 11, in particular section 11.2.2).

ideophones). These facts suggest that this reduplication process might have been productive at an earlier stage. Some of these words might have originally been derived from verbs, through reduplication process III, or from nouns, through the reduplication process VI.

(10)

No base	Noun (independent)	
–	*biribiri*	'parakeet sp.'
–	*chichi*	'meat'
–	*dudu*	'beam'
–	*dukwadukwa*	'titi monkey'
–	*emeyaemeya*	'drawing, photo'
–	*jaajaa*	'guan sp. (turkey-like bird)'
–	*jabirijabiri*	'kite'
–	*kaekae*	'macaw'
–	*kawakawa*	'yellow-billed tern'
–	*kumukumu*	'drum'
–	*kuyukuyu*	'granulated catfish'
–	*pupu*	'owl'
–	*sheishei*	'nocturnal cicada'
–	*shiwishiwi*	'small duck sp.'
–	*shupushupu*	'serepapa grande cichlid (fish)'
–	*tasatasa*	'black ant sp.'
–	*wanuwanu*	'bee sp.'
–	*witukuwituku*	'small bird sp.'
–	*ribariba*	'toasted corn flour'
–	*tiritiri*	'type of traditional dance'
–	*warawara*	'forest coca'

The last two full reduplication processes (VIII and IX) each involve a closed grammatical class: quantifiers and postpositions. In both cases, only one member of the class is attested in a reduplicated form.

(11)

Quantifier		Quantifier	
peadya	'one, a'	*peadya~peadya*	'some'

(12)

Postposition		Postposition	
patya	'in the middle of'	*patya~patya*	'in the middle of' (apparently without change of meaning)

3.2 *Simple Final -CV Reduplication*

We will now turn to partial reduplication processes. There are two distinct patterns of simple[13] final -CV reduplication in Cavineña, both of which are synchronically non-productive. In most instances, no base exists independent of the reduplicated form, in which case we are dealing with inherent (rather than 'pure') reduplication. These two processes are included in this paper for three reasons: (1) they are attested in an important number of items; (2) the reduplicated words show semantic regularities, and (3) in at least some cases it is possible to find an independent unreduplicated base.

The first final -CV reduplication process (X) is attested in both intransitive and transitive verbs (13). In three instances of intransitive verbs, an independent unreduplicated base can be identified, as a bound predicative adjective (13a). In these forms, final -CV reduplication, therefore, has the function of verbalizing a predicative adjective. The resulting meaning is inchoative. In the rest of the (intransitive and transitive) verbs, no independent unreduplicated base can be identified (13b). The semantics of these verbs are very often onomatopoeic or ideophonic in character, expressing an action or entity with sonorous or rhythmic characteristics.

(13) a.

Predicative adjective (bound)		Verb (inflecting)	
apu-	'dark'	*apu~pu-*	'darken'
jawa-	'yellow'	*jawa~wa-*	'ripen'
weka-	'bright'[14]	*weka~ka-*	'be at dawn'

b.

No base		Verb (inflecting)	
–		*bukuku-*	'move'
–		*pakaka-*	'fall'

13 See footnote 2.

14 Alternatively, the base might as well be the noun *weka* 'light.'

No base	Verb (inflecting)	
–[15]	*katsatsa-*	'drizzle'
–	*petutu-*	'boil'
–	*sukururu-*	'drip'
–	*tadada-*	'shiver'
–	*tarara-*	'snore'
–	*tsajaja-*	'run'
–	*warere-*	'turn'
–	*bajeje-*	'prepare O'
–	*itata-*	'shake O'
–	*makaka-*	'hug O'
–	*piruru-*	'roll O up'
	etc.	

The second final -CV reduplication process (XI) is attested in nouns (14). In only one case can an independent unreduplicated based be identified, as a transitive inflecting verb (14a). In this case, reduplication, therefore, has the function of turning a verb into a noun. This derived noun refers to an entity that involves the multiple repetition of the action of the verb it is derived from, a function which recalls what happens with full reduplication process (III). In all the other nouns, no independent unreduplicated base can be identified (14a). The semantics of these forms are very often onomatopoeic or ideophonic in character.

(14) a.

Transitive verb		Noun (independent)	
watsu-	'twist O'	*watsu~tsu*	'whirlpool'

b.

No base	Noun (independent)	
–	*bijiji*	'gray-fronted dove'
–	*bururu*	'toad'
–	*bututu*	'madidi ant'
–	*japipi*	'butterfly'
–	*mejiji*	'beach'

15 A possible, although very speculative, unreduplicated base for *katsatsa-* might be the transitive inflecting verb *katsa-* 'beat O, whip O.'

No base	Noun (independent)	
–	*muwawa*	'grass'
–	*pabejerere*	'pan for toasting'
–	*pisusu*	'iguana'
–	*sududu*	'capybara (rodent)'
–	*sururu*	'waterfall'
–	*tabubu*	'hurricane'
–	*tiriri*	'spider'
–	*tyakariri*	'gecko'
–	*wiriri*	'small partridge sp.'
	etc.	

Note that in all the available examples, the reduplicated syllable begins with a consonant; no examples are available of a final syllabic -V reduplication.

3.3 *Automatic Reduplication Processes*

Automatic reduplication involves reduplication that is "obligatory in combination with another affix, and which does not add meaning by itself to the overall construction" (Rubino 2005, 18). I have identified two such mechanisms in Cavineña. The first involves full reduplication, whereas the second involves final -CV reduplication. They both apply to verbs and indicate the multiple repetition of the verb event.

The first automatic reduplication process (XII) combines the full reduplication of the verb root, which can be either intransitive or transitive, with the suffix *-ni*. As we observe below, this marker corresponds to an allomorph of the morpheme -(*ne*)*ni* that expresses, among other things, a habitual sense. The resulting reduplicated verb has the same valency as the base. The meaning expressed is habitual repetition of the event implied by the verb stem.

(15)

Verb (inflecting)		Verb (inflecting)	
betsa-	'swim'	*betsa~betsa-ni-*	'swim repeatedly'
kati-	'fight'	*kati~kati-ni-*	'fight repeatedly'
kwa-	'go'	*kwa~kwa-ni-*	'go repeatedly'
pa-	'cry'	*pa~pa-ni-*	'cry repeatedly'
abu-	'carry O'	*abu~abu-ni-*	'carry O repeatedly'
beti-	'bring O'	*beti~beti-ni-*	'bring O repeatedly'
duju-	'transport O'	*duju~duju-ni-*	'transport O repeatedly'
iwara-	'call O'	*iwara~iwara-ni-*	'call O repeatedly'

Verb (inflecting)		Verb (inflecting)	
jiru-	'smell O'	*jiru~jiru-ni-*	'smell O repeatedly'
sare-	'search O'	*sare~sare-ni-*	'search O repeatedly'
tupu-	'cut O'	*tubu~tubu-ni-*	'cut O repeatedly'
		etc.	

The second automatic reduplication process (XIII) combines reduplication of the final -CV syllable of a transitive verb root with the suffix *-sha* 'causative.' The resulting reduplicated verb is also transitive. The meaning expressed is multiple repetition of the event in space or with respect to the O argument.[16]

(16)

Verb (inflecting)		Verb (inflecting)	
bere-	'pierce O'	*bere~re-sha-*	'pierce O repeatedly'
jikwi-	'cut O'	*jikwi~kwi-sha-*	'cut O repeatedly'
karu-	'bite O'	*karu~ru-sha-*	'bite O repeatedly'
katsa-	'strike O'	*katsa~tsa-sha-*	'strike O repeatedly'
kwere-	'chop O'	*kwere~re-sha-*	'chop O repeatedly'
pudi-	'pound O'	*pudi~di-sha-*	'pound O repeatedly'
puku-	'crack O'	*puku~ku-sha-*	'crack O repeatedly'
sabu-	'grasp O'	*sabu~bu-sha-*	'grasp O repeatedly'
sakwa-	'pierce O'	*sakwa~kwa-sha-*	'pierce O repeatedly'
shedi-	'smash O'	*shedi~di-sha-*	'smash O repeatedly'
take-	'hack O'	*take~ke-sha-*	'hack O repeatedly'
tedi-	'rub O'	*tedi~di-sha-*	'rub O repeatedly'
		etc.	

Both processes appear to be fairly productive, as they are attested frequently in my text corpus. They are further discussed in sections 3.3. and 3.4.

4 Productive Verbal Reduplication Patterns

I will now provide a more detailed discussion of the productive mechanisms of reduplication applying to verbs. I discuss antipassive simple full reduplication

16 Note that no examples are available of this reduplication process applied to mono- and trisyllabic roots.

in section 4.1, auxiliary-triggering simple full reduplication in section 4.2, automatic full reduplication in section 4.3, and automatic final -CV reduplication in section 4.4.

4.1 *Antipassive Full Reduplication*

As mentioned in section 3.1, there is a full reduplication process (I) that derives intransitive verbs with an antipassive sense from transitive verbs. The antipassive characteristics of the process are illustrated with the sentences in (17a-b) and (18a-b). As we can see, the A of the underived verb becomes the S of the derived verb, while the O disappears.

(17) a. *Era takure ara-ya.*
1SG.ERG chicken eat-IMPFV
'I am eating chicken.' (elicited)

b. *Ara~ara-ya ike.*
eat~eat-IMPFV 1SG.ABS
'I am eating/having a meal.' (elicited)

(18) a. *Metajudya=tuke=∅ [una siri=kwana] utsa-wekaka-ya.*
tomorrow=3SG.ABS=1SG clothes old=PL wash-AT.DAWN-IMPFV
'Tomorrow I will wash the clothes early in the morning.' (elicited)

b. *Utsa~utsa-ti-wa=mike?*
wash~wash-GO-PERF=2SG.ABS
'Did you go and do your laundry?'

Three pieces of evidence suggest that the verb is detransitivized in the reduplication process. First, the subject of the reduplicated verb has an absolutive form. Compare the ergative form of the 1SG independent pronoun in (17a) with the absolutive form in (17b), and observe the absolutive form of the 2SG bound pronoun in (18b). Second, if a verbal affix sensitive to transitivity (see section 1) is used on a reduplicated verb, only the intransitive allomorph of this affix is possible. As illustrated in (19), only the intransitive allomorph *-neti* of the posture suffix 'STAND' can occur on the reduplicated verb *ara~ara-* (the transitive allomorph is *-nitya*).

(19) *Juan ara~ara-neti-ya.* (**ara~ara-nitya-ya*)
Juan eat~eat-STAND-IMPFV
'Juan is eating standing.' (elicited)

Third, it is not possible to express the notional object, whether as a core argument or as an oblique. This property classifies this antipassive type as belonging to the category of "patientless" antipassives (Dixon and Aikhenvald 2000), sometimes also referred to as antipassives with an "implicit" patient (Polinsky 2008).

Semantically, the reduplicated verb denotes a culturally-codified activity, i.e., an activity that people or animals regularly repeat in the same way with respect to the same types of entities (patients). This is the case with the activities of 'having a meal' and 'doing the laundry,' as illustrated in (17b) and (18b), and other types of activities illustrated in the examples given in (4) above, like 'toasting (manioc flour or corn),' 'grinding (corn),' 'peeling (rice or corn),' etc. In (20), we observe a text excerpt with a sequence of two sentences that contain the verb *iji-* 'drink.' In the first, the fully reduplicated form *iji~iji-* 'have a drink' (therefore intransitive) occurs, while in the second, a transitive non-reduplicated form *iji-* 'drink O' occurs with an overtly expressed patient, *tupari* 'chicha.'

(20) *Tuwa ekana iji~iji-ya. Amena tupari=tuna iji-ya.*
there 3PL.ABS drink~drink-IMPFV BM chicha=3PL drink-IMPFV
'There they would have drinks. They would drink chicha.'

This kind of reduplication process is not fully productive. For example, during elicitation, a number of reduplicated transitive verbs were rejected by speakers, such as **chiri~chiri-* 'steal~steal,' **kwere~kwere-* 'cut~cut' and **rikwa~rikwa-* 'bark~bark.' This restriction of application presumably has to do with the semantic specificities of this kind of reduplication: it can probably only be applied to verbs that refer to events that can potentially constitute a culturally-recognized activity in the Cavineña society. And, probably, 'stealing,' 'cutting' and 'barking' are not considered activities in that sense. As a result, it is quite difficult to predict which verb will accept this type of reduplication, in particular for outsiders. For example, it is probably not obvious to anybody why *tya-u~tya-u-*, based on *tya-* 'give,' and *ba-u~ba-u-*, based on *ba-* 'see,' are possible, as opposed to the three ungrammatical forms mentioned above ('steal~steal,' 'cut~cut' and 'bark~bark'). But as shown by the translations in (21) and (22) and the explanations provided to me by a native speaker, these reduplicated forms can be used in very specific contexts. These contexts represent culturally-codified activities: people building the roof of a traditional house and hens searching for a place to lay eggs.

(21) *Tya-u*[17]*~tya-u-ya.*
give-EPEN~give-EPEN-IMPFV
'He is passing on palm leaves.' (as they are making the roof of the house)

(22) *Takure=tu ba-u*[18]*~ba-u-ya.*
chicken=3SG see-EPEN~see-EPEN-IMPFV
'The hen is looking for a place to lay eggs.'

The kind of reduplication process discussed here is also found in at least two other Tacanan languages, Ese Ejja (Vuillermet 2012a,b) and Tacana (Guillaume fieldnotes). However, cross-linguistically, it appears to be a rare phenomenon. To my knowledge, it is only attested in some Oceanic languages, such as Boumaa Fijian (Dixon 1988, 48–49), Kokota (Palmer 1999, 160–161) and Mokilese (Harrison 1973, 415, cited by Moravcsik 1978).[19]

From the point of view of Amazonian languages, this reduplication process is also interesting. It has been claimed that the languages in this part of the world lack antipassive constructions (Aikhenvald, 2012, 235), an assertion that was corroborated by a survey conducted by Polinsky (2008).

Functionally speaking, however, there does not appear to be anything exceptional to having a reduplication process that expresses (or develops into) an antipassive mechanism. First, it is known that there is a strong relationship between the use of the antipassive and imperfective-types of aspect, such as the habitual, durative, iterative, etc. (Creissels 2006, 92; Polinsky 2008). In certain languages, derived imperfective forms occasionally have a detransitivizing antipassive effect when applied to transitive verbs.[20] Second, there are attested cases of reduplication with iterative semantics that strongly disfavor the overt expression of an object NP of transitive verbs. Such is the case, for example, in the Tupi-Guarani language Nheengatu, when the repetition of an event affects multiple patient participants (Cruz, this volume).

It is my impression that the scarcity of attested cases of reduplication with valence-changing syntax might result from the fact that general studies in

17 See footnote 6.

18 See footnote 6.

19 Akan, a West-African language of the Kwa family, is sometimes cited in the literature for having a reduplication process with a detransitivizing antipassive-like function (see Moravcsik 1978). However, according to Appah (2011), this process has a very restricted productivity.

20 This is true, for instance, in the continuative-intensive derivational marker -(*a*)*dar* of the Caucasian language Avar (Charachidzé 1981, cited by Creissels 2006, 87).

reduplication have not seriously considered the possibility that reduplication can have such functions.

4.2 *Auxiliary-Triggering Full Reduplication with Distributive Semantics*

Cavineña displays a second type of simple full reduplication that applies to verbs (II). As mentioned in section 3.1, the verbal base may be either intransitive or transitive, and retains its valency after reduplication has taken place. However, the reduplicated verb becomes non-inflectional and a generic auxiliary is required to host the verbal inflectional morphology. The meaning expressed by this reduplication process is the multiple repetition of the verb event within short and regular intervals, with exactly the same participants/referents and in the same spatio-temporal settings. These formal and semantic characteristics are illustrated in (23a-b), with the non-reduplicated and reduplicated forms of the intransitive verb *keke-* 'shout.'

(23) Intransitive verb

a. *Tudya* [*ekwe* *e-mama*] *keke-kware*.
then 1SG.GEN 1-mother shout-REM.PAST
'Then my mother shouted.' (Tavo Mayo 1977, 27)

b. *Tudya* *keke~keke* *ju-kware*.
then shout~shout be-REM.PAST
'So he was yelling and yelling.' (Tavo Mayo 1977, 53)

As we see in (23b), the tense suffix *-kware* is carried by the intransitive generic auxiliary *ju-* 'be.' If the verbal base is transitive, the generic auxiliary is *a-* 'affect,' as shown in (24a-b) with the non-reduplicated and reduplicated forms of the transitive verb *iwara-* 'call O.'

(24) Transitive verb

a. *Cursillo=ishu=tura=ekwana* *iwara-kware*.
course=PURP=3SG.ERG=1PL call-REM.PAST
'She called us for a (training) course.'

b. *Misionero=kwana=ra=ekwana* *iwara~iwara* *a-kware*.
missionary=PL=ERG=1PL call~call affect-REM.PAST
'The missionaries kept calling us every minute.' (elicited)

In addition to the use of a transitive auxiliary, the subject of the reduplicated verb in (24b) is marked by the ergative enclitic. This provides further evidence that the clause is still transitive.

The following pair of examples with the transitive verb *katsa-* 'beat O' shows the semantic difference between the auxiliary-triggering reduplication, expressing multiple repetition in (25), and the antipassive full reduplication, expressing an activity in (26).[21]

(25) [*Kameweti ari-da=kwana=ra*]*=tu e-wane=kwana=ke* [*dutya*
be.jealous big-ASF=PL=ERG=3SG 3-wife=PL=3 all
wekaka=dya] *katsa~katsa a-ya.*
day=FOC beat~beat affect-IMPFV
'Jealous men beat their wives every day.' (Camp and Liccardi 1989, 17)

(26) *Katsa~katsa-ya=tu e-puna utsa~utsa-ya=ke.*
beat~beat-IMPFV=3SG NPF-woman wash~wash-IMPFV=LIG
'The woman is beating (clothes) while she is washing (clothes).' (elicited)

Unlike the antipassive reduplication process, which can only be applied to verbal roots, the auxiliary-triggering reduplication process permits certain verbal suffixes to be reduplicated together with the verb root. These affixes must not belong to the class of TAM inflections, which can only be hosted by the generic auxiliary. The following examples show the reduplication of the intransitive verb root *neti-* 'stand' together with the aspectual suffix *-baka* 'SHORT.TIME' (27a), and the intransitive verb root *ju-* 'be' together with the aspectual suffix *-chinepe* 'ALL.DAY' (27b).

(27) Reduplication including affixes
a. [*Neti-baka~neti-baka ju-ya majaka*] *ekatse*
stand-SHORT.TIME~stand-SHORT.TIME be-IMPFV even.though 3DL
diru-chine.
go-REC.PAST
'Even though (the oxen) kept stopping (lit. standing) for short periods all along the way, at least they kept going.'

21 Note that this sentence also includes the antipassive reduplication of the transitive verb *utsa-* 'wash O,' here within a relative clause.

b. *E-sewena-tere=tuna amena*
RES-become.black-COMP=3PL BM
[*ijeti=ju ju-chinepe~ju-chinepe ju-ya=tibu*].
sun=LOC be-ALL.DAY~be-ALL.DAY be-IMPFV=REASON
'They have become very dark because they are always in the sun all day long.' (Camp and Liccardi 1989, 46)

Full reduplication can apply to complex predicates involving a non-inflecting verb and an auxiliary, such as *nereda* (*a-*) 'scold O', illustrated in (28a). When this happens, only the non-inflecting verb is reduplicated and no additional auxiliary is needed, as can be seen in (28b):

(28) a. *Nereda=tura=∅ a-kware* [*era jadya kwatsabi*
scold=3SG.ERG=1SG affect-REM.PAST 1SG.ERG thus tell.story.to
a-wa=ju].
affect-PERF=DS
'She scolded me when I told her so.'

b. *Era peya nereda~nereda a-kware.*
1SG.ERG other scold~scold affect-REM.PAST
'I was scolding the other one over and over again.'

Unlike the antipassive reduplication process, the auxiliary-triggering reduplication process seems to be fully productive.

The reiterative full reduplication is not the only mechanism that has an auxiliary-triggering effect in Cavineña. An auxiliary-triggering effect is also observed with a fairly wide range of other morphological and syntactic operations that are applied to verbs/predicates; for an overview see Guillaume (2008, ch. 10).

4.3 *Automatic Full Reduplication*

We will now turn to the first automatic reduplication process (XII), that obligatorily includes some additional morphological material.[22] This process combines the full reduplicant of an intransitive or transitive verbal root with the suffix *-ni*. It results in a verb with the same valency and inflectional characteristics as the non-reduplicated base. The meaning expressed is habitual repetition of the verbal event over a long duration. This process is illustrated in (29) with intransitive verbs and in (30) with transitive verbs.

22 See footnote 2.

(29) Intransitive verbs
a. … *epuna peyainime. Pa~pa-ni-kware* [*tuke jeteke*].
woman sad cry~cry-RANDOM-REM.PAST 3SG looking.for
'(After her husband had left,) the woman was very sad. She kept crying all the time longing (lit. looking) for him.'

b. *Apu~apu=ju=tuna kwa~kwa-ni-kware*.
dark~dark=LOC=3PL go~go-RANDOM-REM.PAST
'They used to go (hunting) when it was still dark.'

(30) Transitive verbs
a. *Ari-da=ke=kamadya=tunaja=tu*
big-ASF=LIG=ONLY=3PL.DAT=3SG
duju~duju-ni-kware.
transport~transport-RANDOM-REM.PAST
'They would only carry the big ones (fishes).'

b. [*Ekwe e-tata=ra ekwe e-mama=ra jadya*] [*tumeke*
1SG.GEN 1-father=ERG 1SG.GEN 1-mother=ERG and that
kwatsabiji] *ekwana kweja~kweja-ni-kware*.
story 1PL inform~inform-RANDOM-REM.PAST
'My father and my mother used to relate that story to us.' (Tavo Mayo 1977, 7)

The suffix *-ni* exists independently of the reduplication process in Cavineña as an allomorph of a verbal morpheme -(*ne*)*ni* which expresses, among other meanings, a habitual sense. The allomorph *-ni* is used with polysyllabic stems, as in (31a), and the allomorph *-neni* with monosyllabic stems, as in (31b).[23]

(31) a. *Tumepatya=ekwana misionero=kwana=ra Tumichucua=ju*
at.that.time=1PL missionary=PL=ERG Tumichucua=LOC
iwara-ni-kware …
call-RANDOM-REM.PAST
'At that time, in Tumichucua, the missionaries would call us (every year) …'

23 The suffix -(*ne*)*ni* can also encode the random distribution of the verbal event across different locations; for more details see Guillaume (2008, 206–208).

b. *Je-neni-ya=mike!*
come-RANDOM-IMPFV=2SG
'You always come (to Riberalta)!'

Since both verbal full reduplication and the habitual suffix *-ni* exist independently in the language, and since they both express multiple repetition when used independently, one may wish to analyze the full reduplication + *-ni* process as compositional. That is, the habitual suffix would apply after verbal reduplication and add some additional nuance to the meaning expressed by reduplication. Such an analysis is incorrect though, for two reasons that relate to the full reduplication pattern without suffixation. First, as shown in section 3.1, when simple full reduplication occurs, it yields either an intransitive inflecting verb (with an antipassive effect) or a non-inflecting verb (which takes a generic auxiliary). Neither of these effects are observed when full reduplication combines with *-ni*. Second, recall that full reduplication of monosyllabic roots requires an epenthetic vowel *-u* (see footnote 6). When we observe the fully reduplicated form of the verb root *pa-* 'cry' combined with the suffix *-ni* in (29a), we observe no epenthetic vowel. This suggests that, at least from a synchronic point of view, the morphological process consisting of reduplication and the suffix *-ni* behaves differently. Yet, it is intriguing how such a situation came about historically. I do not have any compelling hypotheses for this at the present time.

I have not investigated the range of verbs that undergo this reduplication process, but it is relatively frequent in many of my texts. This suggests that it is fairly productive.

4.4 *Automatic Final -CV Reduplication*

The second automatic reduplication process (XIII) combines the final -CV syllable of a typically transitive verb root[24] with a suffix *-sha*, as in (32).

(32) a. *Tedi~di-sha-kware=tunara=ike.*
rub~RED-CAUS-REM.PAST=3PL.ERG=1SG.ABS
'They rubbed me all over.'

24 During elicitation with one informant, I obtained examples of this reduplication process with the following three intransitive verbs: *ani-* 'sit,' *nubi-* 'enter,' and *tsura-* 'go up.' More work is needed to confirm whether these forms are generally accepted by other informants and whether they are used in spontaneous texts.

b. *Tudya=tuna* [*espere jiruru*] *raru~ru-sha-ya*
then=3PL stream at.edge.of cut~RED-CAUS-IMPFV
kuchiru=tsewe.
machete=ASSOC
'They cut (the barbasco lianas) into little pieces with a machete at the banks of the stream.' (Tavo Mayo 1977, 14)

c. ...[*piya=tsewe salon=tsewe jadya mare~re-sha-tsu*]
arrow=ASSOC rifle=ASSOC and shoot.at~RED-CAUS-SS
tsajaja-sha-chine.
run-CAUS-REC.PAST
'(The Araona people) shot at them repeatedly with arrows and rifles and scared them away (lit. made them run).'

As we can see, the resulting verb is still transitive and inflecting. The meaning expressed by the derivational process is the repetition of the verb event and its distribution across space or with respect to the O argument referent. Unlike with the auxiliary-triggering reduplication process (section 4.2), the focus is not on the regularity of recurrence of the repeated event, but on the importance of its spatial scope, either over the place where it occurs or with respect to the O referent. For example, we can compare *katsa~katsa* (*a-*) 'beat O repeatedly,' illustrated in (25), with *katsa~tsa-sha-* 'beat O (all over)' which is roughly translated as 'beat O on the whole body' by native speakers. An example with the perception verb *peta-* 'look at O' is given below:

(33) *Era=tu* *peta~ta-sha-chine* [*tura*
1SG.ERG=3SG look.at~RED-CAUS-REC.PAST 3SG.ERG
be-chine=ke] ...
bring-REC.PAST=LIG
'I've looked at everything he (the merchant) brought (one by one, to be sure of its quality).' (elicited)

The suffix *-sha* exists independently in the language, as a causative marker for intransitive verbs,[25] illustrated in (34).

(34) a. *Akwi=tu riwi-ya*.
tree=3SG fall-IMPFV
'The tree is going to fall down.' (Camp and Liccardi 1989, 86)

25 Transitive verbs take a different marker, *-mere*; see Guillaume (2008, 292–297).

b. *Bari=ra* *riwi-sha-kware* *Eduardo*.
giant.anteater=ERG fall-CAUS-REM.PAST Eduardo
'The giant anteater made Eduardo fall (by striking him).' (elicited)

Since both partial reduplication and a suffix *-sha* exist independently in Cavineña, a compositional analysis is compelling. Under such an analysis, the suffix *-sha* would be the causative suffix which would apply after the reduplication of the verbal root. Both would contribute some part of the resulting meaning. However, such an analysis must be rejected, at least from a synchronic point of view, on the basis that the process of final -CV reduplication is not productive at all (section 3.2). From a diachronic point of view, similar to the full reduplication + *-ni* process discussed above, it is intriguing how the collocation of the final -CV reduplication + *-sha* arose. I do not have any compelling hypotheses for this at the present time. One could imagine that at some point in the history, final -CV reduplication could have had a detransitivizing effect. However, unless this effect had a passive function, we can not see how the original A argument of underived transitive bases remained in A function after the causative *-sha* had been applied (e.g., *tedi-* 'rub O' → **tedi~di-* 'be rubbed (all over)' → **tedi~di-sha-* 'cause O to be rubbed (all over) = rub O (all over)'). Whereas reduplication processes with detransitivizing antipassive functions are attested and functionally motivated (see section 4.1), reduplication processes with detransitivizing passive functions are, to my knowledge, unattested, and hard to account for in functional terms. This idea suggests that one has to look for a different kind of origin. One wonders whether the final -CV reduplication + *-sha* marker could have arisen in a construction where the morpheme *sha-* was an independent transitive verb 'make' and the reduplicated verb was a deverbal noun functioning as the O argument of this verb.[26] A slightly different possibility might be that the process of final -CV syllable reduplication would have had an auxiliary-triggering effect, akin to the type instantiated by full reduplication in present-day Cavineña (see section 4.2). As such, the reduplicated verb would still have been used predicatively but only jointly with an auxiliary, in this case, *sha-*. Provided that *sha-* were transitive, the construction would have been transitive. Unfortunately, I currently have no proof that the morpheme *sha* was a verb or an auxiliary.

The productivity of the reduplication process discussed here is uncertain. This process is attested in about 30 verb roots in my text corpus, and more systematic research on the topic remains to be done.

26 I thank Denis Creissels for this suggestion.

5 Conclusions

In this paper, I have given an overview of all the reduplication processes that are attested in Cavineña. They are summarized in Table 2.

The following conclusions can be made concerning reduplication in this language.

- Cavineña exhibits both full and partial reduplication, but only full reduplication is productive, a fact congruent with Moravcsik's (1978, 328) cross-linguistic proposal that full reduplication is more basic than partial reduplication.
- In Cavineña, most simple reduplication processes and those that are productive alter the morphosyntactic properties of the base, whether in terms of transitivity, inflectional characteristics, or word class. The antipassive effect for one type of full reduplication is noteworthy, as this phenomenon seems to be rather rare cross-linguistically.
- Productive reduplication processes tend to apply to verbs or predicative adjectives, rather than nouns. This fact is congruent with the highly elaborate morphological structure of verbal words in this language and the very limited morphology of nouns.
- The formal and phonological characteristics of all the reduplication processes are relatively easy to describe. This fact accords well with the straightforward phonological and morphophonological structure of this language, which has very little allophony or allomorphy, simple syllable structure, and highly transparent agglutinative morphological structures.

There are only two formal issues that arise in these processes. The first concerns the addition of an epenthetic vowel *u* to monosyllabic bases in certain contexts. The explanation for this phenomenon has to do with a disyllabic minimality constraint on phonological words. The second complication is observed in "automatic" reduplication processes, where the reduplicated form must combine with an additional suffix.

The most interesting aspect of reduplication in this language is probably its syntactic uses, as a word class-changing device and as a valence-changing process. The syntax of reduplication is largely neglected in general studies on the topic. It is hoped that this paper will raise interest among linguists to look at the possible syntactic effects of reduplication.

TABLE 2 *The 13 reduplication processes in Cavineña*

		Base word	Reduplicated word	Syntactic effect	Semantics	Examples		Type
Simple	**full**	trans. infl. verb	intrans. infl. verb	detransitivization (antipassive)	culturally-codified activity	*ara-* *ara~ara-*	'eat O' 'eat, have a meal'	I
		infl. verb	non-infl. verb	verb class changing	multiple repetition	*kueti-* *kueti~kueti* (*ju-*)	'pass' 'pass repeatedly'	II
		infl. verb	noun	word class changing	multiple repetition	*jeru-* *jeru~jeru*	'sing' 'song'	III
		bound pred. adjective	independent pred. adjective	adjective class changing	spatial or temporal distribution	*apu-* *apu~apu*	'dark' 'dark in diff. places'	IV
		noun	independent pred. adjective	word class changing	having many X	*-kwija* *kwija~kwija*	'thorn' 'hav. many thorns'	V
		noun	noun	none	consisting of many X	*nusa* *nusa~nusa*	'mark' 'alphabet'	VI
		none	noun	N/A	onomatopoeia and ideophones	*biribiri*	'parakeet sp.'	VII

		Base word	Reduplicated word	Syntactic effect	Semantics	Examples		Type
Simple	full	quantifier	quantifier	none	distributive	*peadya* *peadya~peadya*	'one, a' 'some'	VIII
		postposition	postposition	none	none	*patya* *patya~patya*	'in middle of' 'in middle of'	IX
	partial	adjective	infl. verb	word class changing	inchoative	*apu-* *apu~pu-*	'dark' 'darken'	X
		none	inf. verb	N/A	onomatopoeia or ideophones	*pakaka-*	'fall'	
		trans. infl. verb	noun	word class changing	multiple repetition	*watsu-* *watsu~tsu-*	'twist O'	XI
		none	noun	N/A	onomatopoeia or ideophones	*japipi*	'butterfly'	
Automatic	full	verb	verb	none	regular/habitual repetition	*betsa-* *betsa~betsa-ni-*	'swim' 'swim repeatedly'	XII
	partial	trans. verb	trans. verb	none	multiple repetition	*jikwi-* *jikwi~jikwi-sha-*	'cut O' 'cut O repeatedly'	XIII

Acknowledgments

The study reported in this paper was presented at the 53rd International Congress of Americanists, Universidad Iberoamericana Ciudad de México, Mexico, July 19–24, 2009, within the symposium "Reduplication in the Amazonian languages" organized by Gale Goodwin Gómez and Hein van der Voort. I am grateful for the comments I received during the symposium, as well as for those by Denis Creissels, Aline Da Cruz, Christian DiCanio, Gale Goodwin Gómez, Françoise Rose, Hein van der Voort and an anonymous reviewer on earlier versions of this paper.

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Abbreviations

[ ]	multiple-word constituent	LIG	Ligature
1, 2, 3	first, second, third person	LOC	locative case
A	transitive subject	NEG	Negative
ABS	absolutive case	NPF	(dummy) noun prefix
ABS	Absolutive	O	transitive object
ASF	(dummy) adjective suffix	PASS	Passive
ASSOC	Associative	PERF	Perfect
BM	boundary marker	PL	Plural
CAUS	Causative	PURP	Purpose
COMP	Completive	REC.PAST	recent past
CONTR	Contrastive	RANDOM	random distribution
DAT	Dative	RED	Reduplication
DL	Dual	REM.PAST	remote.past
DS	different subject	REP	Reportative
EPEN	Epenthesis	RES	Resultative
ERG	Ergative	RESTR	Restrictive
FOC	Focus	S	intransitive subject
GEN	genitive case	SG	Singular
HORT	Hortative	SS	same subject
IMPFV	Imperfective		