

Reduplication in Karitiana (Tupi)

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Abstract

This paper aims to describe and analyze reduplication processes in Karitiana (Arikém family, Tupi stock) affecting verbs and an affixal morpheme that functions as a quantifier of adjectives. Nouns, that could arguably be described as reduplicated, are rather shown to be onomatopoeic. A repetition of ideophones in narratives is also discussed, but distinguished from reduplication. Muller, Storto & Coutinho-Silva (2006a) have shown examples in which Karitiana, a language that has no plural morphology whatsoever in noun phrases, uses complete root reduplication on verbs to mark plurality of events. Muller & Sanchez-Mendes (2007) argue that verb roots are reduplicated in Karitiana to unambiguously indicate plural events – a linguistic phenomenon called pluractionality by Lasersohn (1995). I show that, although reduplication of verbs is a very productive process in Karitiana, there are verbs that do not reduplicate, but have a suppleted form instead, used for plural events. This does not necessarily falsify Muller & Sanchez-Mendes' account, since it appears that the suppleted plural forms in these cases are equivalent in meaning to the reduplicated forms, resulting from the same kind of semantic operation. In onomatopoeic nouns, an iconic phonological string is repeated and makes reference to a typical repetitive movement or sound characteristic of the living being or object denoted by the noun. An affixal morpheme *-V.ra*, that typically attaches to adjectival roots to quantify them as “many” can also be reduplicated to intensify the quantification. In ideophone phrases, repetition of an ideophone is used to indicate a durative event.

Keywords: reduplication; suppletion; pluractionality; ideophones; Karitiana; Tupi

1. Verb reduplication

1.1. Ambiguity between singular and plural readings in noun phrases

Before we discuss verb reduplication and show that it denotes plurality of the event represented by the reduplicated root, it is necessary to show that Karitiana does not mark the plural of nouns morphologically¹:

- (1) *Pikom Ø-naka- 'y-t asyryty*
monkey 3-DECL-eat-NFUT banana
'(The/a) monkey(s) ate (the/a) banana(s)'

As the translation shows, sentence (1) can mean that one or more monkeys – definite or indefinite – ate one or more bananas – definite or indefinite. In the plural interpretation, the event of “banana eating” is necessarily plural, that is, if the monkey(s) ate more than one banana, there was more than one event of “banana eating”. This raises the following question: if a plural interpretation of the event is always available without verb reduplication, why should reduplication apply at all? Sanchez-Mendez & Muller (2007) give an explanation that will be discussed in section 1.3.

Muller, Storto & Coutinho-Silva (2006a and 2006b) were the first to show that sentences in Karitiana are often ambiguous as a consequence of the fact that noun phrases headed by common nouns in the language do not have articles or plural morphology. They explain this fact by saying that common nouns in Karitiana have a denotation that is neutral for number, that is, they can be interpreted as either singular or plural depending on the context. Common nouns also differ from mass nouns in that only the latter require a measure unit to be counted. The authors also claim that Karitiana is a language without determiners of any kind (articles, demonstratives or quantifiers) in the noun phrase.

¹ Abbreviations used in this paper: (abs.)cop.agr = absolutive copular agreement, advzr = adjectivizer, assert = assertative mood, cit = citative mood, decl = declarative mood, deic = deictic, dir.evid = direct evidential, fut = future tense, imp = imperative mood, impf = imperfective aspect, impf.p = imperfective aspect (plural), ind.evid = indirect evidential, loc = locative, nfut = non-future tenses, obl = oblique case, part = participle, posp = postpositions, pgr = progressive aspect, qtfr = quantifier, red = reduplicant, stmf = stem formative, sub = subordinator, 3 = third person prefix (singular or plural), 3anaph = third person anaphoric prefix (singular or plural), 1s = first person singular prefix, 1p = first person plural prefix, 2s = second person singular prefix, 2p = second person plural prefix,

Demonstrative constructions have the structure of clauses, being formed by a deictic element, the noun and a copula, as in (2). Universal quantification is expressed by a subordinate clause formed by the noun, a copula and a subordinator, as in (3):

- (2) *Dibm Ø-naka-tar-i [ony taso aka]*
 tomorrow 3-DECL-go-FUT DEIC man copula
 ‘That man will go tomorrow’

- (3) *Taso Ø-na-sokō ʔit [eremby aka-tyym]*
 man 3-DECL-tie.up-NFUT hammock copula-SUB
 ‘The man/men tied up all hammocks’

Lexical items that can be translated as other types of quantifiers are adverbial, in that they express the quantification of both nouns and verbs. In (4-5) the word *siʔrimat* is used to mean either “nobody” or “never”, and in (6-7) the word *kandat* (‘much’) can quantify the noun phrase (6) or the verb phrase (7):

- (4) *I-semboko padni siʔrimat eremby*
 3-get.wet NEG ever hammock
 ‘Hammocks never get wet’

- (5) *I-a-okooto padni siʔrimat y-ʔit*
 3-PASS-bite NEG ever 1s-son
 ‘Nobody bit my son’

- (6) *Kandat Ø-naka-hor-i dibm taso*
 a.lot 3-DECL-leave-FUT tomorrow man
 ‘Many men will leave tomorrow’

- (7) *pyry-kiit-dn ãonso pytim'adn kandat tyym*
 ASSERT-exist-NFUT women work a.lot SUB
 'There are many women that work a lot'

Sanchez-Mendes (2009) and Muller & Negrão (to appear) have shown that adverbial quantifiers indeed have the same distribution that Storto (1999) has given for adverbs in the language. In a declarative SVO sentence, for instance, adverbial quantifiers, adverbs and postpositional phrases can appear in the beginning or in the end of the sentence, as well as between the verb and the object.

Finally, when numerals combine with a common noun, they do not modify the noun directly as quantifiers and numerals are expected to do, but they first become the complement of an oblique postposition, and then combine with the noun, generating a construction that could be paraphrased, for instance, as “monkeys in five” in sentence (8):

- (8) *Yjpy-t pikom naka'yt asyryty*
 five-obl monkey DECL-eat-NFUT banana
 'Five monkeys ate (the/a) banana(s)'

In the next section, verb reduplication and suppletion are exemplified and described as pluralizing operations on verbs and auxiliaries, and in section 1.3 a discussion of the meaning of pluractionality in the language is presented.

1.2. Ambiguity between singular and plural event readings in verb phrases

1.2.1. Verb reduplication

Verb reduplication, exemplified in (10, 12, 14, 16 and 18) is extremely productive in Karitiana, as it can be used in most verb roots to indicate plurality of events (Sanchez-Mendes & Muller 2007):

- (9) *Inácio Ø-na-mangat-Ø Nádia ka'it*
 Inácio 3-DECL-lift-NFUT Nádia today
 'Inácio lifted Nádia today'
- (10) *Inácio Ø-na-mangat-mangat-Ø Nádia ka'it*
 Inácio 3-DECL-lift~RED-NFUT Nádia today
 'Inácio lifted Nádia today (more than once)'
- (11) *Pikom kyn Ø-naka-pon-Ø João*
 monkey POSP 3-DECL-shoot-NFUT João
 'João shot at a/the monkey(s)'
- (12) *Pikom kyn Ø-na-pon-pon-Ø João*
 monkey POSP 3-DECL-shoot~RED-NFUT João
 'João shot at a/the monkey(s) (more than once)'
- (13) *õwã Ø-naka-hit-Ø goojo-ty João*
 kid 3-DECL-give-NFUT canoe-OBL João
 'The/a kid(s) gave a/the canoe(s) to João'
- (14) *õwã Ø-na-hit-hit-Ø kinda'o-ty João*
 kid 3-DECL-give~RED-NFUT fruit-OBL João
 'A/ the kid(s) gave a/the fruit to João' (more than once)'
- (15) *Myhin-t 'ejepo Ø-na-aka-t i'ot-Ø²*
 one-OBL stone 3-DECL-cop-NFUT PART-fall-ABS.COP.AGR
 'One stone fell'

² This type of syntactic construction is a copular sentence with a nominalized clausal complement. It is widely used in Karitiana with intransitive verbs in place of a simple declarative. Table 1 has all examples of intransitives in the copular construction. In section 1.2.3 its structure is discussed in more detail.

- (16) *Myj̃ym-p 'ejepo Ø-na-aka-t i- 'or-ot-Ø*³
three-OBL stone 3-DECL-cop-NFUT PART-fall-RED-ABS.COP.AGR
‘Three stones fell’(three events of stone falling)
- (17) *Taso Ø-naka-kydn-Ø*
man 3-DECL-wait-NFUT
‘A/the man/men waited’
- (18) *Taso Ø-na-kydn-kydn-Ø*
man 3-DECL-wait~RED-NFUT
‘A/the man/men waited’ (more than once)

Note that although common nouns are always ambiguous between a singular or plural interpretation, depending on the verb that is reduplicated, a certain reading may be forced. With reduplicated transitive verbs, the reading of a plural object is forced in verb phrases like ‘eat banana’ or ‘kill monkey’. The same does not happen with a verb like ‘shoot at monkey’, because many shooting events may target a single monkey. In other cases, the reading of a plural subject may be forced, as in the verb phrase ‘blow fire’ in Table 1, that is usually interpreted when reduplicated as implying that the subject is plural. The question that remains is whether such an interpretation is imposed by the meaning of the verb or by pragmatic reasons.

Sanchez-Mendes & Muller (2007) discuss the meaning of verb reduplication in Karitiana inside a framework of formal semantics. They claim that the semantic operation that results from the application of reduplication pluralizes the verb phrase. The arguments given in favor of their hypothesis are:

³ The morphophonological process of lenition accounts for the change of a voiceless dental stop /t/ to a tap [r] in morpheme boundaries before a vowel-initial morpheme. It is a regular process that applies between a final stop or nasal followed by a vowel initial morpheme (Storto 1999), resulting in a voiced approximant.

(I) Reduplicated verb roots cannot be used with a singular interpretation, as in (19):

(19) **Inácio Ø-na-mangat-mangat-Ø Nadia ka'it*

Inácio 3-DECL-lift~RED-NFUT Nadia today

'Inacio lifted Nadia today (once)'

(II) Reduplication is possible for any sentence denoting two or more events and not only for sentences denoting a significant number of events:

(20) *Sypom-p Ø-na-pon-pon-Ø João sojxaty kyn*

two-obl 3-DECL-shoot~RED-NFUT João wild.boar POSP

'João shot twice at a/the boar(s)'

(III) Sentences with distributive readings of singular objects should not allow pluractional reduplication, because in this kind of sentence one is distributing singular event predicates. The adverbial quantifier *tamyrỹ tamyrỹ* can be roughly translated as 'each', and is perfectly grammatical with a distributive reading in (21), a sentence in which the event of "fruit giving" is interpreted as singular. Indeed, sentence (22) is ungrammatical, as predicted, because the event of giving a fruit is plural, thus incompatible with the intended distributive reading:

(21) *Ta-myr̃ ta-myr̃ Ø-naka-hit-Ø ðwã myhin-t kinda'o*

3ANAPH-alone 3ANAPH-alone 3-DECL-give-NFUT kid one-OBL fruit

'Each child gave one fruit'

(22) * *Ta-myr̃ ta-myr̃ Ø-naka-hit-hit-Ø ðwã myhin-t kinda'o*

3ANAPH-alone 3ANAPH-alone 3-DECL-give~RED-NFUT kid one- OBL fruit

'Each child gave one fruit' (more than once)

In the examples seen so far, verb reduplication affected the root of the verb. I list other verbs in which the reduplicated version of the verb is accompanied by affixal morphology such as the causative morpheme and stem formatives to confirm that the root is the only morpheme that is reduplicated:

Table 1

Declarative V (sg/pl)	Declarative V reduplicated (pl)	General gloss
<i>Ø-naka-yt-Ø</i> 3-DECL-dig-NFUT	<i>Ø-naka-yt-yd-na-t</i> 3-DECL-dig~RED-STEMF-NFUT	‘sby dug sth’ (object: hole)
<i>Ø-na-ohok-a-t</i> 3-DECL-peel-STEMF-NFUT	<i>Ø-na-ohok-ohok-<o>na-t</i> 3-DECL-peel~RED-STEMF-NFUT	‘sby peeled sth’ (object: manioc)
<i>Ø-naka-m-hõron-Ø</i> 3-DECL-CAUS-wash-NFUT	<i>Ø-naka-m-hõron-hõron-Ø</i> 3-DECL-CAUS-wash~RED-NFUT	‘sby washed sth’ (object: clothes)
<i>Ø-na-mboit-Ø</i> 3-DECL-adorn-NFUT	<i>Ø-naka-mboit-mboit-na-t</i> 3-DECL-adorn~RED-STEMF-FUT	‘sby adorned sby’ (object: child)
<i>Ø-na-aheet-Ø</i> 3-DECL-blow-NFUT	<i>Ø-na-aheet-aheed-na-t</i> 3-DECL-blow~RED-STEMF-NFUT	‘sby blew sth’ (object: fire)
<i>naakat i-kysep-Ø</i> PART-jump-COP.AGR	<i>naakat i-kysep-kyseb-na-t</i> PART-jump~RED-STEMF-COP.AGR	‘sby jumped’
<i>naakat i-kaĩ-Ø</i> PART-dream-COP.AGR	<i>naakat i-kaĩkaĩ-na-t</i> PART-dream~RED-STEMF-COP.AGR	‘Sby dreamed’
<i>naakat i-hop-Ø</i> PART-blow.up-COP.AGR	<i>naakat i-hop-hob-na-t</i> PART-blow.up~RED-STEMF-COP.AGR	‘Sth blew up’ (subject: a ball)
<i>naakat i-kĩĩ-Ø</i> PART-scream-COP.AGR	<i>naakat i-kĩĩkĩĩ-dna-t</i> PART-scream~RED-STEMF-COP.AGR	‘Sby screamed’
<i>naakat i-apii-t</i> PART-argue-COP.AGR	<i>naakat i-apii-apii-dna-t</i> PART-argue~RED-STEMF-COP.AGR	‘Sby argued’
<i>naakat i-egngy-t</i> PART-vomit-COP.AGR	<i>naakat i-egngy-egngy-dna-t</i> PART-vomit~RED-STEMF-COP.AGR	‘Sby vomited’

1.2.2. Verb suppletion

There are verb and auxiliary roots that do not reduplicate in Karitiana, but have a suppletive form to indicate plural events as in (23-24):

(23) *Yn Ø-na-oky-t pikom*
 I 3-DECL-kill-NFUT monkey
 ‘I killed (a/the) monkey(s)’

(24) *Yn Ø-na-popi-t pikom*
 I 3-DECL-kill.pl-NFUT monkey
 ‘I killed (the) monkeys’

The supplet root means that there were plural events of “monkey killing”, and that necessarily means that more than one monkey was killed. To use sentence (24) to mean that a single monkey was killed is ungrammatical, as represented in (25):

(25) **Yn Ø-na-popi-t myhin-t pikom*
 I 3-DECL-kill.pl-NFUT one-OBL monkey
 ‘I killed one monkey’ (more than once)

Conversely, sentence (21) can be used to mean that any number of “monkey killing” events took place (one or more), as in (26-27):

(26) *Yn Ø-na-oky-t sypom-p pikom*
 I 3-DECL-kill-NFUT two-OBL monkeys
 ‘I killed two monkeys’

(27) *Yn Ø-na-oky-t myhin-t pikom*
 I 3-DECL-kill-NFUT one-OBL monkey
 ‘I killed one monkey’

We have seen that verb suppletion pluralizes the meaning of the verb phrase, and that sometimes implies that the object will necessarily be interpreted as plural. The subject of a transitive suppletive root, as expected, is not grammatically affected by suppletion, and may be either singular (28) or plural (29):

(28) *Myhin-t ðwã Ø-na-popi-t pikom*
 one- OBL kid 3-DECL-kill.pl-NFUT monkey
 ‘One kid killed the monkeys’

(29) *Sypom-p ðwã Ø-na-popi-t pikom*
 two-OBL kid 3-DECL-kill.pl-NFUT monkey
 ‘Two kids killed the monkeys’

The same pattern is true of the transitive verb ‘to catch’:

(30) *Myhin-t/sypom-p taso Ø-naka-ot-Ø myhin-t ‘ip*
 one-OBL/two-OBL man 3-DECL-catch-NFUT one-OBL fish
 ‘One/two man/men caught one fish’

(31) *Myhin-t/sypom-p taso Ø-naka-ot-Ø sypom-p ‘ip*
 one-OBL/two-OBL man 3-DECL-catch-NFUT two-OBL fish
 ‘One/two man/men caught two fish’

(32) *Myhin-t/sypom-p taso Ø-naka-piit-Ø ‘ip*
 one-OBL/two-OBL man 3-DECL-catch.pl-NFUT fish
 ‘One/two man/men caught fish’ (more than once)

(33) **Myhin-t/sypom-p taso Ø-naka-piit-Ø myhin-t ‘ip*
 one-OBL/two-OBL man 3-DECL-catch.pl-NFUT one-OBL fish
 ‘One/two man/men caught one fish’

Intransitive verbs with suppleted roots mean, again, that a plural number of events took place:

(34) *Ø-Na-yryt-Ø taso yj-akan-pip*
 3-DECL-arrive-NFUT man 1p-village-LOC
 ‘A/the man/men arrived in the village’

- (35) *Ø-Na-ymbykyjt-Ø* *tasō* *yj-akan-pip*
 3-DECL-arrive.pl-NFUT man 1p-village-LOC
 ‘A/the men arrived in the village’
 *‘A man arrived in the village’

- (36) *Ø-Naka-tat-Ø* *tasō* *yj-akan-pip*
 3-DECL-go-NFUT man 1p-village-LOC
 ‘A/the man/men went to the village’

- (37) *Ø-Naka-hot-Ø* *tasō* *yj-akan-pip*
 3-DECL-go.pl-NFUT man 1p-village-LOC
 ‘A/the men went to the village’
 *‘A man went to the village’

In the next two subsections we will see that not only lexical verbs have suppleted roots in Karitiana, but “functional verbs” such as the copula (cf. 1.2.3) and aspectual auxiliaries (cf. 1.2.4) may undergo suppletion as well.

1.2.3. Copula *aka* and *kii*

We have seen examples of the copula *aka* before in this paper used in demonstrative constructions, universal quantification constructions and in declarative sentences with intransitive verbs. At least one of its uses, in demonstrative constructions, allows for suppletion:

- (38) [*Hak tasō aka*] *Ø-na-aka-t* *hotel* *ongy-t*
 here man cop. 3-DECL-cop-NFUT hotel employees- ABS.COP.AGR
 ‘A/the man who is here is a hotel employee’

- (39) [*Hak tasō kii*] *Ø-na-aka-t* *hotel* *ongy-t*
 here man cop.pl 3-DECL-cop-NFUT hotel employees- ABS.COP.AGR
 ‘A/the man who are here are hotel employees’

All copular sentences in Karitiana have clausal complements, headed either by nouns, adjectives or intransitive verbs (Storto (1999, 2008, to appear)) as in (40-42):

- (40) *Byyty Ø-na-aka-t kinda'o-t*
 Papaya 3- DECL -cop-NFUT fruit-abs.agr.
 'Papaya is a fruit'

- (41) *Taso Ø-na-aka-t i-se'a-t*
 Man 3- DECL-cop- NFUT PART-beautiful-ABS.COP.AGR.
 'The man is goo/good-looking'

- (42) *Taso Ø-na-aka-t i-kat-Ø*
 Man 3-DECL-cop- NFUT PART-sleep. ABS.COP.AGR..
 'The man is sleeping'

The main evidence that copular complements are clausal is the fact that they are suffixed by the absolutive copular agreement marker *-t/-Ø*. This suffix is present in copular constructions, in clefts and *wh*-sentences whenever an absolutive argument (object or subject of an intransitive verb) is moved (focused) to sentence-initial position. Another piece of evidence for the clausal status of copula complements is the participle prefix *i-* that nominalizes the clause when it is headed by adjectives and verbs. It remains to be determined whether every use of the copula *aka* mentioned above can undergo suppletion with *kii* or not.

1.2.4. Aspectual auxiliaries

Karitiana has imperfective auxiliaries that form a complex head with the verb in matrix or embedded sentences. Verb and imperfective auxiliaries are different phonological words, but syntactically they represent a complex head, forming a phonological phrase (Storto 1999). Examples (43-44) are assertative sentences in which

the imperfective auxiliaries occur with the same verb. In (44) the suppletive auxiliary *agi* contributes with the meaning of plurality of imperfective events.

- (43) *Ø-Py-mangat tyka-dn taso Luciana*
 3-ASSERT-lift IMPF-NFUT man Luciana
 ‘Luciana is lifting a/the man/men’

- (44) *Ø-Py-mangat agi-dn taso Luciana*
 3-ASSERT-lift IMPF.P-NFUT man Luciana
 ‘Luciana is lifting a/the man/men’ (more than once)

In (45) and (46) the imperfective auxiliaries compose with a progressive morpheme to form one phonological word. Together, they form a syntactic unit with the verb that adds the meaning of imperfectivity of the progressive type to the event in the subordinate clause. In (46), the event is marked plural by the presence of the imperfective auxiliary *agi*:

- (45) [*a-oty-p a-tat tyki-’oot*] *y-ta-so’oot-Ø yn an-ty*
 2s-bath-LOC 2s-go IMPF-PGR 1s-DECL-see-NFUT I you(s)-OBL
 ‘While you (sg.) were going to bathe, I met you (sg.)’

- (46) [*Aj-oty-p aj-hot agi-’oot*] *y-ta-so’oot-Ø yn ajxa-ty*
 2p-bath- LOC 2p-go.pl IMPF.P-PGR 1s-DECL-see-NFUT I you(p)-OBL
 ‘While you (pl.) were going to bathe, I met you (pl.)’

1.3. The meaning of pluractionality in Karitiana

According to Sanchez-Mendes & Muller (2007), reduplication is a semantic operation that pluralizes a verb phrase. They call the reduplicate (RED) affix in Karitiana a pluractional affix, in the sense of Lasersohn (1995). Lasersohn claims that pluractional morphemes usually show up as verb affixes and mean that a multiplicity of events has occurred.

The proposal of Sanchez-Mendes & Muller (2007) is that pluractional affixes in Karitiana perform a pluralization operation on verb denotations that excludes atomic events. As a result, the singular or atomic interpretation of verb roots is no longer available after reduplication takes place. They claim that in a language like Karitiana, in which the interpretation of both nouns and verbs is cumulative in the sense of Kratzer (2005), pluractionality is similar to the pluralization of nouns in languages in which nouns are atomic (count nouns).

The same can be said about supplet roots. The root that may have a singular meaning can be used in contexts where there is a singular or plural number of events. Supplet roots, however, always denote a plural event, so they must be the result of a pluralizing operation, possibly the same described above for reduplicated verbs.

Copulas and aspectual auxiliaries have supplet forms to indicate plural events. As far as we understand their distribution, the analysis given by Sanchez-Mendes & Muller (2007) to reduplicated roots can be extended to them as well.

2. Adjectival quantifier: reduplication of affixal morphology

2.1. Evidence in favor of a class of adjectives in Karitiana

Before discussing the affixal adjectival quantifier, it is necessary to give arguments for the existence of a class of adjectives in the language, distinct from the class of nouns and verbs. Caleb Everett (2006) has a very useful presentation of the main evidence for a class of adjectives in Karitiana that we reproduce below:

“The differentiation of adjectives from nouns and from verbs is apparent in four principal ways. First, their behavior in copular constructions distinguishes them from nouns. Second, they can occur without inflections when following nouns, so distinguishing them from verbs. Third, they can be derived from nouns via an adjectivizing morpheme –nã. Fourth, they can be suffixed with a –ra suffix when following a plural noun”.

(Everett 2006: 308)

Examples (47-48) and (49-50) are taken from Everett (2006:309-311) to exemplify the second and third issues raised in the above paragraph. The first issue has been discussed in section 1.2.3 and the fourth is going to be addressed in section 2.2.

(47) *Ombaky eem*
jaguar back/dirty
‘The jaguar is dirty/black or ‘back/dirty jaguar’

(48) **ombaky pyt’y*
jaguar eat
‘The jaguar is eating’

(49) *Jonso ‘ed-na*
woman child-ADVZR
‘The pregnant woman’

(50) *Him saa-dna*
animal smell- ADVZR
‘The smelly animal’

2.2. Morphophonology, syntax and semantics of the adjectival quantifier

Interestingly enough, although nouns do not have plural morphology in Karitiana, adjectives may be quantified by a suffix *-V.ra*, that could be freely translated as “many” in the sense of “a significant quantity of A”:

- (51) *Ewosiit som Ø-na-aka-t i-se'a-t*
flower red 3-DECL-cop-NFUT PART-beautiful-ABS.COP.AGR
'A/the red flower(s) is/are beautiful'

- (52) *Ewosiit sōw-ōrã Ø-na-aka-t i-se'a-t*
flower red-QTFR 3-DECL-cop-NFUT PART-beautiful-ABS.COP.AGR
'Many (a lot of) red flowers is beautiful'

If this suffix is added to a consonant-final adjective, the initial vowel of the suffix assimilates in quality to the last vowel of the root, and lenition of the last consonant of the root takes place. We must say that the vowel is part of the suffix and not epenthetic, because lenition will only take place between a final stop or nasal and a vowel-initial suffix in the language.

In cases in which the suffix is added to adjectival roots ending in a vowel, the initial vowel of the suffix is deleted.

- (53) *Ep saraka-ra Ø-na-aka-t i-se'a-t*
tree smooth-QTFR 3-DECL-cop-NFUT PART-beautiful-ABS.COP.AGR
'Many (a lot of) smooth trees is nice'

When the suffix is reduplicated, as in (53), the initial vowel of the reduplicated suffix is preserved and the last vowel of the first suffix is deleted. The difference in meaning between sentence (52) and (54) is simply that reduplication of the affix creates an intensification of the plural quantification:

- (54) *Ewosiit sōw-ōr-ōrã Ø-na-aka-t i-se'a-t*
 flower red-QTFR~RED 3-DECL-cop-NFUT PART-beautiful-ABS.COP.AGR
 ‘Lots (and lots) red flowers is beautiful’

Table 2 is a list of adjectives in which suffixation with the adjectival quantifier – *V.ra* and reduplication of that suffix occurs:

Table 2

ky'ep 'sharp'	ky'ewera	ky'ewerera
josek 'piercing'	josekera	josekerera
syk 'acidic'	sykyra	sykyryka
osyk 'full'	osykyra	osykyryra
tek 'short'	tekera	tekerera
opap 'distant'	opawara	opawarara
penem 'narrow'	penewẽrã	penewerera
horop 'long, tall'	horowora	horoworora
pendot 'wide'	pendorora	pendororora
pyondyt 'thick'	pyondyryra	pyondyryryra
sembok 'wet'	sembokora	sembokorora
got 'new, young'	gorora	gororora
terep 'straight'	terewera	terewerera
non 'crooked, bent'	norõrã	norõrõrã
'in 'in 'small'	'in írira	'in 'irĩrĩrã
bypiit 'close'	bypiirira	bypiiririra
eem 'black, dirty'	ẽẽwẽrã	ẽẽwẽrẽrã
hyk 'old'	hykyra	hykyryra
nam 'rotten'	nawãrã	nawãrãrã

Some speakers have different judgements on the meaning of the affix –*V.ra* and its reduplication when used with specific adjectives. To these speakers, a sentence pair like (52) and (54) with the adjective *ewet* ‘thin’ or *okyp* ‘hot’ could mean ‘a little thin/hot’ when suffixed by –*V.ra*, and the plural of that when reduplicated, that is ‘many individuals who are a little thin/hot’. This is similar to what has been reported in the literature about the same reduplication process being able to mean intensification or attenuation (Rubino 2005:19, Gomes 2007:393). In this case, however, the attenuation meaning is available with the suffixation of –*V.ra* before it duplicates, and duplication

adds the meaning of plural. One wonders if this has to do with some sort of semantic *backcopying* phenomenon (Mc Laughlin 2005)

Much research must be done before we fully understand the morphophonology, syntax and semantics of the morpheme *-V.ra*. Verbs and adjectives in the language have properties in common that are yet to be explained, because although they are separate categories, all adjectives can be inflected as verbs. A detailed study of the syntactic and semantic properties of lexical items will, hopefully, solve some of the problems raised in this section.

3. Onomatopoeic nouns

Many nouns in Karitiana seem to be formed via reduplication, but in fact, most of them are simply onomatopoeic, that is, they are formed by a repeated iconic phonological string, not morphemes, that represents or emulates a typical repetitive movement or sound characteristic of the living being or object denoted by the noun.

Table 3

siritsirit	‘species of humming bird’ (sound of wings)
pyypppyyp	‘species of owl’ (vocalization of bird)
tomtom-a	‘guitar’ (sound of instrument)
ta’eret ta’eret	‘species of bird’ (vocalization of bird)
ewewe	‘species of bird’ (vocalization similar to humans)
oot’oot	‘species of egret’ (not sound)
hoojhooj	‘species of frog’ (speakers have no intuitions)
ketket	‘species of owl’ (speakers have no intuitions)

This particular type of repetition is not considered an instance of reduplication because the string of sounds repeated does not appear as a root elsewhere in the language (Gil 2005). Although onomatopoeic nouns are often formed by the complete repetition of a string, they need not be, as in *okokoj* ‘species of bat’, *ewewe*, and *kyryryt* ‘species of frog’, and *kydn kodna* ‘butterfly’.

In nouns that involve the repetition of a string that is used as a root elsewhere in the language, it is necessary to investigate whether the meaning of the root is somehow present in the noun or not. If it is, we can consider that noun as formed via reduplication. If the meaning of the root does not have any relationship with the meaning of the noun, then it could be a simple case of homophony and the noun must be considered onomatopoeic.

4. Repetition of ideophones

This section described the criteria for considering ideophones as a special word class in Karitiana, and shows examples of ideophone repetition. The term *repetition* is used here to label a different process than reduplication:

“... whereas repetition applies across words, and is therefore subsumed under syntax or discourse, reduplication applies within words, and is consequently taken to be part of morphology”.

Gil (2005:31)

4.1. Evidence for the existence of ideophones in Karitiana

Karitiana has a special class of words named ideophones, different from nouns, verbs, adjectives or adverbs (Landin 1983). The test we have been using to differentiate ideophones from verbs is their use in the imperative mood. If the root is an ideophone, it cannot be inflected with the person prefix (*a-* '2s', *aj-* '2p') or with the imperative suffix (*-a/- Ø*), whereas verbs can. Ideophones may be used in the imperative as complements of the verb '*a* 'to do, to say'; in such cases, the verb is inflected and the ideophone is bare:

(55) *a-kar-a*

2s-sleep-IMP

'Sleep!'

(56) **kat* *a-'a'-Ø*

sleep 2s-do-IMP

'Sleep!'

(57) *tẽ* *a-'a'-Ø*

sleep 2s-do-IMP

'Sleep!' (literally: 'Do *tẽ*')

(58) **a-tẽ-Ø*

2s-sleep-IMP

'Sleep!'

(59) *a-mbik-a*

2s-sit-IMP

'Sit!'

(60) **Bik* *a-'a'-Ø*

sit 2s-sit-IMP
'Sit!'

(61) *Dok a-'a-Ø*
sit 2s-sit-IMP
'Sit!'

(62) **a-ndok-a*
2s-sit-IMP
'Sit!'

(63) *terek terek a-'a-Ø*
walk walk 2s-do-IMP
'Walk!' (literally 'do terek terek!')

(64) **a-terek tereg-a*
2s-walk-IMP
'walk'

(65) *a-tar-a*
2s-go-IMP
'Go!'

(66) **tat a-'a-Ø*
Go 2s-do-IMP
'Go!'

(67) *i-okoor-a*
3-bite-IMP
'Bite it/him'

(68) **Okoot* *a- 'a-Ø*
 Bite 2s-do-IMP
 'Bite it/him'

(69) **Xak* *a- 'a- Ø*
 bite 2s-do-IMP
 'Bite it/him'

(70) **i-xag-a*
 3-bite- IMP
 'Bite it/him'

The examples given above include pairs of verbs and ideophones that have roughly the same meaning. Verbs are inflected for person and mood in imperative sentences. Storto (2008) analyzes such person prefixes as absolutive agreement: subject agreement for intransitive verbs and object agreement for transitive ones. Conversely, ideophones cannot be inflected, but construct as the complement of a verb “to do” in the imperative.

4.2. Examples of repetition of ideophones in narratives

One of the uses of ideophones in Karitiana is in narratives inside what I call “ideophone phrases”, as a resource, similar to a sound track or visual special effect in a movie, used to approximate the listener to the space and time of the narrative. It can be considered an instantiation of verbal art (Gil 2005). In such uses, ideophones referring to events that are typically durative, such as walking, talking, etc, are often reduplicated, whereas events that are punctual, or have a final point, such as sitting or arriving, are not:

(71) *tarak tarak tarak otam dok*
 walk walk walk arrive sit
 '(He) walked, walked, walked, arrived, sat'

(72) *Sosyp ba, Ø-naka-'a-t saryt i-ohỹr-ym*
 Look open 3-DECL-do-NFUT IND.EVID 3-TOP-LOC
 '(He) looked and opened, (that is how) they say he did on top of it'

(73) *Sosyp, iri-'a-j, tek tek jyk*
 look CIT-do-FUT walk walk stop.standing
 'Look he did, walked walked and stopped'

(74) *Ho ho ho jydn, Ø-na-tambyky oko ta'a-t*
 Go go go take 3-DECL-bring ITER DIR.EDIV-NFUT
 '(They) went, went, went took it, and brought it again'

Gabas Junior & van den Auwera (2004) identify ideophones in Karo, a Tupi language of the Ramarama family. In Karo we have a process of repetition of ideophones very similar to the one just described in Karitiana. Crofts (1973, 1984) described ideophones in Munduruku (Munduruku family, Tupi stock), and, judging by the examples presented, they also suffer repetition of the type seen in Karitiana.

5. Conclusion

The reduplication process affecting verbs and adjectives in the language seems to be implemented via affixation and to have a similar meaning independent of the category of the lexical item to which it applies: when both verbs and adjectives show reduplication (or when verbs and auxiliaries show suppletion), the semantics of plurality is necessarily present. In the case of the adjectival intensifier *-V.ra*, reduplication can be translated as an intensifier of the plural quantification. In nouns, what appears to be reduplication is, in most cases, an instance of onomatopoeia. In ideophones, reduplication is not present, but the repetition of an ideophone results in a durative reading for the event denoted by the root.

It remains to be seen whether the facts reported in this paper about the semantics of verb and auxiliary reduplication and suppletion can be observed in all other Tupi

languages. Lima (2007, 2008) claims plurality of events is marked via reduplication in Juruna verbs, in an exactly parallel fashion to what Sanchez-Mendes & Muller (2007) described for Karitiana. Lima (2007) has an overview of the literature on Tupi languages where she reports what has been described about verb reduplication in 6 out of the ten families that comprise the Tupi linguistic stock, summarized below (where we omit Karitiana (Arikém family) and Kamayurá (Tupi-Guarani), discussed elsewhere in the paper): In Juruna (Juruna family), Fargetti (2001:178) was the first to identify that verbal reduplication is associated with the plurality of arguments and the reiteration of processes; in Xipaya (Juruna family) C. Rodrigues (1999:68) claims that reduplication signals the repetition or durative character of a process; in Gavião (Mondé family), Moore (1984:241) describes reduplication as meaning repetition of an action; in Mundurucu (Mundurucu family) Picanço (2005:376) describe reduplication as associated to the extension or repetition of a process and Gomes (2007) identifies different meanings for reduplication processes: event duration, intensification/attenuation, and plurality of participants; in Mekéns (Tupari family), Galúcio (2001:104) points out that any root can be reduplicated as a mark of iterativity, that is, the way in which an event was performed or the repetition of an event. Rose (2005) mentions plurality of events as the meaning of reduplication in Tupi-Guarani languages, distinguishing between two kinds of event plurality: event-internal and event-external. Seki (2000) associates reduplication in Kamayurá (Tupi-Guarani) to iterative, successive and intensive aspects. Considering other Amazonian languages from two different genetic groups, I would like to comment the works of Bruno (200X) and van der Voort (2003). Bruno (200X) discusses the phonological status of reduplication in Waimiri-Atroari (Karib) without mentioning its semantics, but one can see from the translation that reduplication means plurality of events (perhaps iterative) and duration (perhaps progressive aspect). In Kwaza (unclassified), van der Voort describes many different meanings associated to reduplication, including repetition of an event, plural of participants, intensification, attenuation, progressive aspect and others, the most interesting and surprising of all being reduplication of person affixes on verbs used to create tense distinctions. The present paper describes reduplication of a suffixal quantifier in adjectives meaning intensification

of the quantification, yet another case of affixal reduplication reported to exist in Amazonia.

If plurality of events and participants is a recurring meaning in reduplication processes in Amazonia, as it seems to be from the quick overview made in the previous paragraph, then it may be the case that, as in Karitiana, pluractionality is the process underlying event and participant pluralization in other Amazonian languages as well. As we have seen, participant pluralization is not a necessary but a possible result of pluralizing the event.

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