

(4) *Total reduplication*: Burushaski (Isolate)

e:giç'u-mane~e:giç'u-mane

sow.PFV-while~RED

'(while) sowing continuously'

(Munshi 2006: 226, Ex 78a)

In the existing Macuxi literature, there appear to be two constructions that are associated with multiple events: the iterative suffix *-pîî*, as well as verbal reduplication. The present work is concerned with the following research questions concerning the latter construction: (i) What are the verbs that allow reduplication? (ii) Is there an impact of *aktionsart* (lexical aspect)? (iii) How can these reduplicated constructions be interpreted?

This paper is organised as follows: Section 2 provides a background on Macuxi and the two constructions that are associated with expressing multiple events. I provide a description of the methodology in Section 3. This is followed by a presentation of the results in Section 4 and a discussion in Section 5. Section 6 concludes.

2. Pluractionality in Macuxi

The Macuxi language (ISO 639-1: mbc; Cariban), also referred to as Makushi, Makushí, Makuchi, Makussi, Makusi, Pemon, Teweya or Teueia in the literature, is spoken in the northern Brazilian state of Roraima, the Rupununi region of Guyana, and Venezuela. According to Instituto Socioambiental's Encyclopaedia of Indigenous Peoples in Brazil¹, the Macuxi population is at an estimated 43 192, with 33 603 in Brazil (as of 2014), 9500 in Guyana (as of 2011) and 89 in Venezuela (as of 2011). Macuxi speakers in Brazil, however, are only estimated to be at about 15 000 (Crevels 2012). According to the most recent Brazilian census, there are only 5806 Macuxi speakers (IBGE 2010: Table 1.15; also in Elango et al. 2020). Crevels (2012:182) lists Macuxi as "potentially endangered", while it is listed on the UNESCO Atlas of the World's Languages in Danger as "vulnerable". The Macuxi communities live in areas of language contact: Portuguese in Brazil, English in Guyana and Wapichana.

2.1 The *-pîî* suffix

In Macuxi, the *-pîî* suffix (Abbott 1991), has been characterized as the iterative morpheme *-pitiipi* (Carson 1982), and occurs after the verb (5) and before the completed aspect or past tense (6). According to Abbott, it expresses repeated or habitual action, when occurring with *-ʔpi* 'past'. For instance, Abbott describes (6) to only be interpreted as habitual action of worshipping in the past.

¹ The Makuxi entry in the Encyclopaedia "Povos Indígenas no Brasil/ Instituto Socioambiental" can be found at: <https://pib.socioambiental.org/pt/Povo:Macuxi>

- (5) a:-koʔman-piti miriri
 3-remain-ITER there
 ‘He is still living there.’ (Abbott 1973:118)
- (6) Mîkîrî i-n-koneka-‘pî yapurî-pîti-pî to’ya
 3.PRO 3-OBJ.NMLZ-make-PST praise-ITER-PST 3.PRO.PL-ERG
 ‘They used to worship that which he made.’ (Abbott 1991: 118)

2.2 Reduplication in Macuxi

Two separate types of reduplication are identified in Macuxi. The first process is associated with ideophones (7), which tend to occur in discourse. These ideophones are not inflected and tend to feature reduplicated sequences. These ideophones are described by Abbott (1991: 149) to “denote the action normally expressed by a finite verb form”.

- (7) mîrîrî pî’ to’ wanî-‘pî. tîren, tîren, tîren,
 that at 3:PRO:PL be-PST sound:of:spoons:and:plates
 pîratu pa’tî-‘pî to’-ya.
 plates hit-PST 3: PRO:PL-ERG
 ‘They were at that (doing that). Banging of plates and spoons, they hit the plates.’
 (Abbott 1991: 149)

The current paper is concerned with the second reduplicative process, which occurs with verbs. Abbott (1991: 34) highlights the existence of verb repetition and associates this process as a grammatical strategy that indicates the continuativity of an event, occurring over a period of time or distance. For instance, in (8) the verb for ‘to go’ is repeated in order to indicate a continuative, repetitive action. In (9), the verb for ‘to remain’ is reduplicated.

- (8) moropai attî-‘pî attî-‘pî attî-‘pî a’nai tîrî-‘pî see pata e’ma ta, e’ma ta, e’ma ta
 and go-PST go-PST go-PST corn put-PST this place road in road in road in
 ‘And he went and went putting corn here in the road (as he went along).’
 (Abbott 1991: 34, Ex 48)
- (9) moro aa-ko’mamî-‘pî aa-ko’mamî-‘pî, t-ekkari t-onpa-i
 there 3-remain-PST 3-remain-PST 3:REFLX-food 3:REFLX-taste-ADVBLZR
 pra asakî’ne wei
 NEG two day
 ‘There he remained, not eating his food for two days.’ (Abbott 1991: 34, Ex 49)

Carson (1981)'s grammar provides further evidence of this process. In (10), the verbal stem *patî* occurs twice, but this example is not contextualized, and the translation does not indicate the interpretation of the reduplicated verb. Additionally, the use of the adverb *tuuke-teeka* 'often' is compatible with the interpretation of the verb indicating repetition of events:

- (10) anî-patî-patî João-ya tuuke-teeka
 pro-hit~hit Joao-ERG often
 'Who has hit João often?' (Carson 1981: 180)

Beyond the examples found in the existing grammars, however, there is a lack of in-depth descriptions of the use and possible interpretations of reduplication in Macuxi. In her ethnographic study on the movements of Macuxi people along the Southern Guyana border, Grund (2017) discusses the use of reduplication in her consultants' narratives. Drawing links to verbal art and poetic discourse, Grund observes that reduplication is commonplace in descriptions of movement in Macuxi, and that this construction is associated with intensity, habituality and continuative action (Grund 2017: 204-205, based on Sherzer 2002: 19-21). In this anthropological study, Grund appears to use the terms *repetition* and *reduplication* interchangeably. In the linguistic literature, however, there is debate regarding the differences between total reduplication and repetition, which can be explored by a combination of naturalistic data and context-based elicitation². As discussions about what makes a word would be beyond the scope of this paper, for the purposes of this study, I will be referring to these constructions as instances of reduplication.

In order to supplement the examples found in the grammars, I have also consulted several traditional Macuxi narratives, summarized in Table 1. These texts were examined for instances of the *pîti* morpheme, as well as reduplication. Analysis of these texts reveal limited evidence of reduplication in the Macuxi literature. The instances found in the narratives were mostly examples of ideophones, and there were few examples that resembled the verb repetition that Abbott (1991) describes. As mentioned in the previous section, Abbott (1991: 34) describes verb repetition as a grammatical strategy to indicate the continuity of an event, but I was unable to identify more examples of such interpretations in these texts. Based on the few examples from the grammars, this strategy appears to involve not just the reduplication of a verbal root, but the repetition of inflectional morphemes along with a verbal root appears to be possible too.

² See Gil (2005) (also discussed in Mattioli (2019)), for an in-depth discussion on a set of criteria distinguishing repetition and reduplication. According to Gil, the output is the distinguishing factor: the input of a single word for total reduplication produces a single word as its output.

Table 1. Summary of occurrences in Macuxi texts

Title	Number of pages	Number of occurrences of <i>pîfi</i>	Number of occurrences of reduplication
Wei moropai Kapoi moropai Kaiwano' / 'Sun and Moon and Star' (Abbott 1991)	8	2	1
Lendas Macuxís (Mayer 1951)	21	4	1
Makusi maimu – Língua makuxi: guia para aprendizagem e dicionário makuxi. (Amódio and Pira 2007)	258	8	0
Kaikusiyamî', Wairayamî' moropai Maikanyamî' (Onças, antas e raposas / Jaguars, tapirs and foxes): <i>Mitos do povo makuxi registrados pelo monge beneditino Dom Alcuíno Meyer entre 1926 e 1948</i> (MacDonell 2011)	152	33	7
Amenan pe paapaya uyetato'kon (<i>O Novo Testamento na língua Macushi do Brasil</i>) (Wycliffe Bible Translators 2013)	729	936	12

This brings us to the main research questions. To reiterate, the present work is concerned with the following: (1) What are the verbs that allow reduplication? (2) Is there an impact of *aktionsart* (lexical aspect)? (3) How can these constructions be interpreted?

3. Method

To investigate these questions, I worked with two Macuxi consultants, O and F, in Boa Vista, Roraima, Brazil in May 2019, making use of a questionnaire. These elicitation sessions were conducted in Spanish and were conducted in a group or individually. While the meta-language in which the tasks were conducted with F was Spanish, a third-party was present to translate sentences into Portuguese for O. As per Matthewson (2004), scenarios were presented to consultants orally during these elicitation sessions, with the aid of images or drawings.

There are four main sections in the Pluractionality Questionnaire: (i) a translation task; (ii) grammaticality judgment tasks; (iii) truth value judgment tasks; and (iv) felicity judgment tasks. In the following section, I will first provide a description of each task, and provide the results and discussion in Section 2. Note that in the present paper, I will be focusing on the results of the grammaticality and truth value judgment tasks.

3.1 Translation task

The first section involves the translation of 48 verbs, chosen based on their classification according to *aktionsart*, or lexical aspect. We want to be cognizant of the inherent, temporal properties of verbs, that affect event structure. This encompasses, in essence, how an event might unfold over a period of time. Specifically, we can look at this with two main factors: durativity and telicity. Durativity refers to an action occurring over a measurable time span, where verbs can be durative or punctual. Telicity refers to whether there is an inherent end point, or what we would term as ‘boundedness’. A third factor, stativity, concerns whether a change of state occurs during an event. These Vendlerian classes of eventualities (with the later addition of *semelfactives*), rely on these parameters, and are summarized in Table 2 (Vendler 1967, Smith 1991).

Table 2. Classes of verbs (Smith 1991, based on Vendler 1967)

	Static	Durative (interval)	Telic / Bounded (result)	Examples
<i>Activity</i>	-	+	-	run, push a cart
<i>Accomplishment</i>	-	+	+	build a house
<i>Achievement</i>	-	-	+	reach, find
<i>Semelfactive</i>	-	-	-	knock, cough
<i>State</i>	+	+	-	have, like

Activities are verbs unfolding over a measurable time span, with no inherent end point, e.g. “to run”, while accomplishment verbs unfold over a measurable time span, with an end point, e.g. “to drown”. Achievements are punctual verbs with a terminal point, e.g. “to find”, while semelfactives are punctual verbs with no terminal point, e.g. “to knock”. Lastly, static verbs have no internal change, e.g. “to have”. This classification will be useful to us, as it allows us to categorize the verbs in order to distinguish finer differences in certain interpretations of plural events, considering their inherent temporal properties.

Wood (2007) argues that pluractionality, aspect and *Aktionsart* are closely related. She posits that pluractional categories are best understood as types of *Aktionsart*, or lexical aspect. Wood is not alone on positing the importance of considering the lexical properties of the verb in plural events. Abdolhosseini et al. (2002), Cabredo-Hofherr and Laca (2012), Sanchez-Mendez and Müller (2018) and Yu (2003) have discussed how the *Aktionsart* or lexical aspect of the verb affects the readings of plural situations. Abdolhosseini et al. (2002) found that by considering the lexical aspectual classes and the semantics of base verbs in Niuean (Polynesian), they were able to predict the meaning of a given reduplicated verb. Since this classification was based on English verbs, we are not certain if verbs can indeed be classified in the same way in Macuxi. This will nevertheless provide us a starting point to observe any patterns in the behaviour of Macuxi verbs.

3.2 Grammaticality judgment task

In the second task of the questionnaire, consultants were presented with reduplicated forms in isolation to determine their grammaticality. The main purpose of this task is to determine the acceptability of reduplication and the use of the *pîî* morpheme, based on the different classes of verbs: (i) Activities: ‘run~run’; (ii) Accomplishments: ‘cook~cook’; (iii) Achievements: ‘break~break’; and (iv) Semelfactives: *patî~patî* ‘hit~hit’. An issue to take note of relates to functional morphemes, as we are also interested to see if affixes that mark tense or aspect are reduplicated.

3.3 Truth value judgment task

In this task, consultants were provided with an overarching context, supplemented with pictures, and explore several different scenarios. Two variables are manipulated in this task: (1) the number of subjects and (2) the number of events. Based on these variables, one would be able to make predictions for the use of reduplication or the *pîî* morpheme.

For instance, consultants would be presented a sentence in the target language (such as, *Maria runs in the morning and in the evening*) containing reduplication. They then are asked to determine if this is acceptable in this given context. If reduplication is associated with pluractionality, as observed in several languages including Yudja (Lima 2017), we would expect that verbs like ‘run’ to be reduplicated whenever more than one event has been performed, regardless of the number of participants. If reduplication is not associated with pluractionality but is an agreement strategy or is indicating a plurality of individuals in the language, we would then expect that verbs would only be reduplicated if one of the arguments of the verb is plural.

Additionally, we are testing how and whether these constructions encode the distribution of multiple events over time. If reduplication is indeed associated with pluractionality, and can be distributed over a period of time, we would expect the verb to be reduplicated in a scenario where there are specific, separate instances of running within a given time frame. We would then test to see if this might be associated with habitual action, where the events are distributed over a larger period of time: if reduplication can encode habitual events, the construction would be accepted in this context.

4. Results

4.1 Grammaticality judgment task

The main purpose of this task is to determine the acceptability of reduplication and the use of the *pîî* morpheme, based on the different classes of verbs. 39 verbs were tested in this task. These are broken down into *activity* (8 verbs), *accomplishment* (13 verbs), *achievement* (9 verbs) and *semelfactive* (9 verbs) in the following sub-sections. The goal of this activity was solely to verify which verbs would allow reduplication. Note that for the purposes of this study, I have chosen to focus on dynamic, non-stative verbs. While stativity (involving a change of state) is a third category that could have an impact on

reduplicated verbs, I have chosen instead to focus on dynamic verbs, in order to zero in on the notions of telicity (boundedness) and durativity

4.1.1 Activity

8 activity verbs were tested for reduplication. 5 of these, the Macuxi verbs for *run*, *swim*, *talk*, *cry*, *push*, allowed reduplication. The Macuxi verbs for *walk*, *scold*, *sleep* did not allow reduplication.

- (11) a. João eka'temî-pî komampara
 João run-PST yesterday
 'João ran yesterday.'
- b. João eka'temî-pî~eka'temî-pî komampara
 João run-PST~run-PST yesterday
 'João ran (a lot) yesterday.'

4.1.2 Accomplishment

13 accomplishment verbs were tested for reduplication. Only three accomplishment verbs (*build*, *paint*, *clean*) allowed reduplication. The other 10 tested verbs, including *plant*, *wash*, *cook*, *write*, *clean (wash)*, *eat (meal)*, *eat (sweets and fruits)*, *give*, *send*, *fish*, did not accept reduplication.

- (12) a. João-ya uutî ikoneka-pî.
 João-ERG house build- PST
 'João built a house.'
- b. João-ya uutî ikoneka-pî~ikoneka-pî
 João-ERG house build-PST ~build-PST
 'João built a house (intensely).'

4.1.3 Achievement

9 achievement verbs were tested, and almost universally did not accept reduplication. Only the Macuxi verb for *break* accepted reduplication:

- (13) a. João-ya îinî ya'mirika-pî.
 João-ERG pan break-PST
 'João broke the pan.'
- b. #João-ya îinî ya'mirika-pî~ya'mirika-pî
 João-ERG pan break-PST ~ break-PST
 'João broke the pan.'

However, consultant F was initially reluctant to accept reduplication in this case. He suggested that if there is emotion involved, perhaps out of rage or anger, one could then reduplicate the verb. The other 8 verbs which rejected reduplication included: *lift*, *carry* (*multiple items*), *carry* (*one item*), *fall* (*person*), *fall* (*tree/person*), *fall* (*from above*), *fall* (*multiple objects*), *throw*.

4.1.4 Semelfactive

9 semelfactive verbs were tested for reduplication, and the results were almost evenly split. 5 of these verbs (denoting *hit/knock*, *jump*, *laugh*, *lick*, *cough*) could be reduplicated. The verbs that rejected reduplication include those meaning *brush*, *cut/saw*, *flicker*, *clap*

- (14) a. João-ya mana'ta pa'tî-pî.
 João-ERG door hit-PST
 'João knocked on the door.'
- b. João-ya mana'ta pa'tî-pî~pa'tî-pî
 João-ERG door hit-PST~hit-PST
 'João knocked on the door many times.'

The questions we sought to answer from these two tasks were: (i) which Macuxi verbs allowed reduplication and/or the *pîî* suffix, and (ii) whether there is an impact of *Aktionsart*. The results from the translation and grammaticality judgment tasks indeed show an interaction between *Aktionsart* and reduplication in the language. Activity (5 out of 8) and semelfactive (5 out of 9) verbs seem more likely to accept reduplication than other classes of verbs: achievements (1 out of 9) and accomplishments (3 out of 10).

4.2 Truth value judgment task

To reiterate, the questionnaire tests whether (i) reduplication in Macuxi encodes core arguments, and (ii) how and whether it encodes the distribution of multiple events over time, whether it is habitual or non-habitual. Reduplication appears to be applicable in situations involving one or more participants; it can apply to contexts with singular arguments as in (15a) and (15b), and could also apply to situations with multiple participants, as in (16a) and (16b).

- (15) a. Context: *Maria is on her school's running team and she is training for a competition.*
- Maria eka'temî~eka'temî iwei kaisirî
 Maria run~run every day
 'Maria runs (a lot) every day.'

- b. Context: *João moved to the city and left his dog at home. He is describing to his friend that a dog back home used to lick him every day.*

Arinmaraka-ya João ame'ka~ame'ka
 Dog-ERG João lick~lick
 'The dog licks João repeatedly.'

- (16) a. Context: *a group of three children ate fruit in the morning and come back later, with some intervals, to continue eating.*

Komampara more-yamî sekiri'tî-pî~sekiri'tî-pî
 Yesterday child-PL eat-PST~eat-PST
 'The children ate and ate yesterday.'

- b. Context: *Maria and her friend are on their school's running team and they are training for a competition.*

Urisan-yamî eka'temî~eka'temî iwei kaisirî
 Girl-PL run~run every day
 'The girls run (a lot) every day.'

I also explored the hypothesis that if reduplication was associated with multiplicity of events, both (a) non-habitual, multiple events, as well as (b) habitual events would be compatible with reduplication. Firstly, when presented with a context with separate events within the same day (and indicating a non-habitual, multiple action), the consultants agreed that reduplication was possible, but not obligatory, as in (17).

- (17) Context: *João and Maria are dating, and talk to each other many times a day.*
 Sîrîrîpe João eseurama~eseurama Maria- yarakîrî
 Today João talk~talk Maria-with
 'João speaks with Maria a lot.'

When presented a context where the subjects are running multiple times a day or every day as a habit, the consultants accepted reduplication for both single subjects ((18a) and (18b)), and for multiple subjects ((19a) and (19b)). Critically, despite accepting reduplication here, the consultants emphasized on intensity, instead of the habitual interpretation.

- (18) a. [Condition: singular subject, multiple events]

Maria eka'temî~eka'temî iwei kaisirî
 Maria run~run every day
 'Maria runs every day.' (focus on intensity)
 Intended interpretation: Maria runs every day. (focus: habitual action)

- b. [Condition: singular subject, multiple events]
- Maria eka'temî~eka'temî iwei kaisirî enmîpî-ya, waron-ya
 Maria run~run every day morning-in then
- moropai e waron-ya
 then e night-in
- 'Maria runs in the morning and evening every day.' (focus: intensity)
 Intended: Maria runs in the morning and evening every day. (focus: habitual action)
- (19) a. [Condition: multiple subjects, multiple events]
- Urisan-yamî eka'temî~eka'temî iwei kaisirî
 Girl-PL run~run every day
 'The girls run every day.' (focus: the intensity of the running).
 Intended: The girls run every day. (focus on habitual action)
- b. [Condition: multiple subjects, multiple events]
- Urisan-yamî eka'temî~eka'temî iwei kaisirî enmîpî-ya,
 Girl-PL run~run everyday morning-in
- moropai e waron-ya
 then e night-in
- 'The girls run in the morning and evening every day.' (focus: intensity)
 Intended: The girls run in the morning and evening every day (focus on habitual action)

The only instance where consultants accepted the habitual interpretation, and did not mention an intensity reading, was in a context with swimming as the activity, in both present (20a) and past tense (20b). Interestingly, this was also the only instance where the *pîî* morpheme was not accepted, while the reduplicated construction was.

- (20) a. Context: *Maria swims in the morning and in the afternoon every day.*
 Iwei kaisirî Maria epînamî~epînamî
 Everyday Maria swim~swim
 'Maria swims and swims every day.'
- b. Context: *Maria swam in the morning and in the afternoon yesterday.*
 Komampra Maria epînamî-pî~epînamî-pî
 Yesterday Maria swim-PST~swim-PST
 'Yesterday Maria swam and swam.'

The results from this task reveal that reduplication is generally dispreferred or not used to describe habitual events, but still compatible with multiple events. Crucially, the consultants commented that reduplicated verbs in scenarios such as (20) have intensity readings. Consultants pointed out that the *pîti* morpheme would be preferred for habitual readings, with the exception of the verb *epînamî* ‘to swim’.

There appears to be an effect of tense whether some verbs would allow reduplication. For instance, Macuxi verbs for ‘cough’ and ‘lick’ allow reduplication only in the present tense ((21a) and (22a)), but not in the past tense ((21b) and (22b)).

(21) *From the grammaticality judgment task:*

- a. Maria esenkatî~esenkatî
 Maria cough~cough
 ‘Maria coughs and coughs.’
- b. *Maria esenkatî-pî~esenkatî-pî
 Maria cough-PST~cough-PST
 Intended reading: Maria coughed and coughed.

(22) a. Context: *João is very fond of dogs, which like to lick him.*

Arinmaraka-ya João ame’ka~ame’ka
 Dog-ERG João lick~lick
 ‘The dog licks João repeatedly.’

- b. *Arinmaraka-ya João ame’ka-pî~ame’ka-pî.
 Dog-ERG João lick-PST~lick-PST
 Intended reading: The dog licked João repeatedly.

In summary, alongside *Aktionsart*, the acceptability of this construction appears to be affected by tense. While reduplication was compatible with contexts in which multiple events occurred, whether as a habit or non-habit, this strategy was found to be more associated with intensity, rather than a cardinality of events.

5. Discussion

The questionnaire results and comments from the consultants reveal that reduplication in Macuxi is found to encode the intensity of events but does not appear to be directly linked to a cardinality of events. Recall that in the classification of dynamic verbs for the translation task (Table 2), I had focused on two factors: telicity and durativity. A bounded or telic event has a natural end point, while a durative event unfolds over a measurable time span, whereas a punctual event would occur in an instant. It should be noted here that I have chosen to adopt Smith’s (1991) definition of semelfactives. Smith posits

semelfactives as a distinct lexical category, arguing that they are atelic achievements³ that occur instantaneously.

Based on the properties of the different classes of verbs shown in Table 2, recall that semelfactives and activities are atelic verbs with no inherent end points. In (23), we observe the reduplication of the activity verb *etuka* ‘push’. The verb *push* has no inherent end point, and it would be difficult to individuate these acts of pushing, considering that there is no change of state in this context. Reduplication with an intensity reading is thus plausible.

(23) Context: *João tried to enter the house, but the door wouldn't move.*

João-ya	mana'ta	etuka-pî~etuka-pî
João-ERG	door	push-PST~push-PST
‘João pushed the door repeatedly.’		

Considering that intensity characterizes unbounded events, it would make sense that these two classes of verbs: semelfactives and activities, would accept reduplication more readily than achievements and accomplishments. This contrasts telic, bounded events such as achievements and accomplishments, which tend to be reduplicated. This pattern was indeed what the results have found. In other words, these unbounded events, being less likely to be able to be counted, make use of reduplication as a measuring strategy.

This might serve as a preliminary analysis that could be refined further. In future work, it would be important to have a closer look at telic and atelic events. Rothstein (2004: 168) discusses how the verb *run* could be telic or atelic, depending on a particular context. While ‘*run*’ is an atelic verb, denoting a set of singular eventualities, ‘*run to the store*’ is telic and denotes a set of events that are atomic relative to a context. In other words, the latter has a specific start and end point (defined by the context), which renders it atomic, whereas in the former *run*, it is as readily individuated as an event. In the present study, I have looked at events more generally based on the classes of verbs, but it would be insightful to examine telic and atelic verbs, with more specific contexts and perhaps with modifiers (as in the English ‘to the store’ or ‘along the road’), within the individual classes of verbs.

This finding about reduplication in Macuxi juxtaposes the patterns associated with the *pîti* morpheme, which tends to be universally accepted across verbal classes. The *pîti* morpheme appears to be main pluractional strategy and has also been found to be such a strategy in other Cariban languages. In his typological study, Mattiola (2019) provides a case-study on the *pōdi* morpheme in Akawaio, a closely related Cariban language, and

³ A possible argument, however, could be made against the properties of semelfactives as a class of verbs. Rothstein (2004) argues that semelfactives are in fact telic, and they are unable to denote (near)-instantaneous events. While Smith posits that achievements involve a change-of-state that does not occur for semelfactives, Rothstein argues that semelfactive events comprise of further subevents that can be considered a change-of-state. An example of such internal structure is the action of winking, where a wink consists of shutting and opening an eye.

provides that there are multiple cognates across the region (summarized in Table 3) that share similar semantic functions, which include frequentativity, iterativity and habituality.

Table 3. Summary of **-pëti* cognates across Cariban languages

	Orthography	Phoneme
Macuxi	<i>-pîti</i>	/ pîti /
Akawaio	<i>-pödi</i>	/ podi /
Carib (Guianan)	<i>-poty</i>	/ poti /
Kari'nja (Carib of Surinam)	<i>-poti</i>	/ poti /
Panare	<i>-pëti</i>	/ pëti /

We have seen in the preceding sections that reduplication in Macuxi does not appear to encode functions as such, and hence is a separate strategy for the expression of multiple events. Though applicable in certain situations with habituality, it was found that a different dimension of measurement, intensity, tends to be employed with those multiple events instead of number.

6. Concluding remarks

This paper sought to address whether reduplication is indeed a strategy for encoding multiple events in Macuxi, and how that fits in alongside the iterative *pîti* morpheme in the language. An analysis of Macuxi narratives resulted in almost no occurrences of reduplicated verbs. If reduplication is indeed a pluractional strategy, I sought to answer: what are the verbs that allow reduplication, and what does the morphology look like? The present study has tested scenarios occurring in the present and past, and the results reveal that Macuxi reduplication surfaces in two ways. For situations in the present, such as an ongoing habit or multiple instances of an action like *knocking*, the verb is reduplicated. For situations occurring in the past, reduplication involves not only the root verb, but also the inflectional morphemes, such as the past tense *-pî*. When the verb is reduplicated without the tense morphology, a reading for an event occurring in the past is not possible.

Aktionsart, or lexical aspect, has been said to factor into interpretations of multiple events (Wood 2007). The results from the translation and grammaticality judgment tasks show that there *is* an impact of *Aktionsart* for reduplication. Semelfactive and activity verbs tend to be reduplicated, while achievements and accomplishments are less likely to accept reduplication. Considering the results of the truth value judgment tasks, these reduplicated verbs have been found to be associated with the intensity reading, rather than a cardinality of events. The only anomaly was the verb *epînamî* ‘to swim’, where the consultants had preferred reduplication over *pîti*. Considering this intensity function, I had chosen to analyse this construction based on lexical aspect. Considering that atelic verbs such as activities and semelfactives were more likely to be reduplicated, we can associate this with

the notion that these verbs denote actions that are not as easily individuatable, as compared to telic events. Rather than being associated with a cardinality of events or *counting* events, reduplication in Macuxi can hence be said to be associated with *measuring* events instead, based on a different dimension such as intensity. Through the analysis of Macuxi narratives in the literature, as well as context-based data elicitations, the preliminary findings hence suggest while *pîtî* might serve as the main, grammaticalized pluractional strategy (also seen in other Cariban languages), whereas reduplication is associated with a secondary pluractional function (that is, intensity), that relies heavily on *Aktionsart*.

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