Cumulativity and Countability in Karitiana Verbs[*]

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1.   Introduction

This paper is focused on the cumulativity and the countability associated with Karitiana verbs. Karitiana is a language of the Arikén family, Tupi stock, spoken by about 320 people on a demarcated area in the northwest of Brazil (Storto & Vander Velden 2005). The main claim of this work is that Karitiana verbs have both cumulative and count denotation.

Karitiana is a very interesting language to be studied by the adverbial quantification perspective. It has some singular properties that made it a very good object of investigation in this topic and in related ones. Karitiana doesn't have determiner quantification neither number marking in the nominal domain. Bare nouns occur freely as arguments and they have cumulative denotation in the syntax (cf. Müller et al. 2006, Müller 2009). The sentence (1) shows that both count and mass nouns can appear as bare noun phrases (NPs) in the language. The sentence shows also that the nouns have cumulative denotation, since the sentence is appropriate in contexts that have one or more than one man and any amount of water[1].

(1)   Taso Ø-naka-ot-Ø   ese.
        man 3-DECL-bring-NFUT   water[2]
        'The/a/some man/men brought an amount of water'

Since Karitiana does not have determiner quantification, it is interesting to investigate some properties of the adverbial quantification in the language. These properties are used in this paper as arguments to the claim that the verbal domain in

[1] The data presented in this handout without reference was collected by me by controlled elicitation with native speakers, following the metodology in Matthewson 2004. I thank all my informants, especially Claudiana Karitiana, Cláudio Karitiana, Edelaine Karitiana, Elivar Karitiana, Inacio Karitiana, Luiz Karitiana, Maria de Fátima Karitiana, Mauro Karitiana and Nelson Karitiana.

[2] The morpheme abbreviations used are the following: 3 = 3rd person agreement, DECL = declarative, NFUT = nonfuture, COP = copula, PART = participle, ABS = absolutive, DUPL = duplication, OBL = oblique.

the language is cumulative and countable. This article is divided basically in two parts. The first part concerns in showing some features of Karitiana verbs in order to demonstrate that they suggest an analysis that take into account both cumulativity and countability. At this part, the characteristics of pluractionality and frequency and degree adverbs are discussed. In the second part, I argue that these properties are theoretically compatibles, despite of their apparent contradiction.

2 Karitiana Data

2.1 Cumulativity

The aim of this section is to show that the investigation of the sentences with pluractionality in Karitiana shows that the verbal domain in the language has cumulative denotation in the syntax. This is accordance with *The Cumulativity Universal*, that says that the denotations of all simple predicates in natural languages are cumulative (cf. Krifka 1992, Kratzer 2001, Kratzer 2008). A simplified definition of cumulativity based on Kratzer 2001 is given in (2):

(2)   Cumulativity:
        A predicate is cumulative if whenever it applies to two individuals in its denotation, it also applies to their sum.

        Müller and Sanchez-Mendes 2008 claim that pluractional affixes in Karitiana perform a pluralization operation on cumulative verb denotations – they exclude atomic events from the denotation of verbs (cf. Ferreira 2005 for nouns and verbs and Müller 2000 for nouns). This operation is illustrated in (3) and (4).

        Sentence (3) shows the verb *'ot* 'to fall' without any pluractional markers. As we see, the sentence can be used in a context in which João fell once or in a situation of more than one fall by João. Example (4), on the other hand, shows that when the verb has a pluractional morpheme, the sentence can be used only in contexts in which João fell more than once.

(3)   João Ø-na-aka-t   i-'ot-Ø[3].
        João 3-DECL-COP-NFUT   PART-fall-ABS
        'João fell'
        <u>Context</u>: once / more than once

(4)   João Ø-na-aka-t   i-'ot-'ot-Ø.
        João 3-DECL-COP-NFUT   PART-fall-DUPL-ABS
        'João fell'
        <u>Context</u>: *once / more than once

        Thus, this analysis is a little bit different of the classical analysis for the plural operation, as in Link 1983. In Karitiana, the pluralization in the verbal domain is an operation that excludes the atoms of a certain denotation. It is not the case that the sentence without plural marker is singular. The sentence without any kind of adverbial quantification as pluractionality is compatible with cumulative denotations, that

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[3] The sentences with intransitive verbs are in a copular construction. Storto 2009 proposes that copular sentences are bi-clausal structures in Karitiana in which the copula verb *aka* selects a nominalized small-clause as its complement. These sentences are understood as raising sentences in which the subject of the small-clause moves to a focus position.

include atoms and plurals. The example in (5) shows the literal reading of a simple sentence in Karitiana, that is, the absence of specificity of quantities in a sentence in which the nouns and the verbs have cumulativity denotation.

(5)   Taso Ø-na-manga-t   õwã.
        man 3-DECL-lift-NFUT   child
        '(The/a/some) man/men lifted (the/a/some) child/children once/more than once'
        Literally: 'An unspecified number of men lifted an unspecified number of children an unspecified number of times'

However, it does not mean that the sentences in Karitiana are always ambiguous. The literally description represents contexts in which the sentence can be used. Or, in other words, contexts in which the sentence is true and adequate. The context is in charge of assigning the relevant quantities for the event and its participants.

The example in (6) shows that once the pluractional marker is used, the sentence is adequate to describe situations in which two or more events occurred. It's in accordance with the propose of Müller and Sanchez-Mendes 2008.

(6)   Sypom-t Ø-na-aka-t   i-'ot-'ot-Ø   João.
        two-OBL 3-DECL-COP-NFUT   PART-fall-DUPL-ABS   João
        'João fell twice'

As we see, pluractional markers in Karitiana makes a plural operation on the cumulative denotation of the verbal domain. It's different of we usually notice in pluractional languages. Lasersohn 1995 investigated the phenomenon cross-linguistically and showed that in many languages the pluractional affixes are involved in a semantics of intensity or of a number of events bigger than expected. That is what we can see in the data in (7) in Nahuatl and (8) in Dyirbal.

(7)   Nahuatl:
        a.   tlania
                'to ask'
        b.   tlatlania
                'to ask intensively'

(Lasersohn 1995, p. 246)

(8)   Dyirbal:
        a.   balgan
                'to hit'
        b.   balbalgan
                'to hit a lot'

(Lasersohn 1995, p. 246)

The examples of Chechen show the same pattern. As we can see (9) and (10), the pluractionality is involved in a repetition of many events, not exactly in a plural operation[4].

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[4] In Chechen, pluractionality is not marked by a duplication of the verb stem, but by an alternation of the verbal theme vowel.

(9)   Chechen:
        a.   molu
                'to drink'
        b.   myylu
                'to drink repeatedly'

<div align="right">(Yu 2003, p. 293)</div>

(10)   Chechen:
        a.   loocu
                'to capture'
        b.   loecu
                'to capture repeatedly'

<div align="right">(Yu 2003, p. 293)</div>

As we saw in this section, the assumption that the verbs have cumulative denotations in Karitiana helps to analyze appropriately the pluractionality in the language. Karitiana pluractional affixes make a plural operation that excludes the atoms of the denotation of a simple verb. This makes the pluractionality a little bit different of pluractional languages such as Nahuatl, Dyirbal and Chechen. The next section discusses how the property of countability is associated to the verbal denotation in Karitiana.

2.2   Count Properties

The purpose of this section is to show that the investigation of same quantificational properties in Karitiana lead us to the assumption that the verbal domain is entirely countable in the language. First, I show an analysis for the frequency and degree adverbs in French (cf. Doetjes 2007) in order to compare them with the adverbs in Karitiana. Then some characteristics of pluractionality in Karitiana will be retakes with the purpose of reinforce the argument.

2.2.1   Frequency and Degree Adverbs in French

Doetjes 2007 analyzed frequency and degree adverbs in french such as *souvent* 'often/many times' and *beaucoup* 'a lot'[5]. According to Doetjes, frequency adverbs as *souvent* are always involved in an iterative interpretation, that is, that many events occurred. This feature is unrestricted and occur with both telic and atelic verbal predicates, as shoed in sentences (11) and (12).

(11)   Sylvie va   souvent au   cinema.
        Sylvie goes often   to.the movies
        'Sylvie goes often to the movies'

<div align="right">(Doetjes 2007, p. 1)</div>

(12)   Il a   plu   souvent.
        It has rained often
        'It has rained often'

<div align="right">(Doetjes 2007, p. 2)</div>

On the other hand, degree adverbs as *beaucoup* have a different behavior depending on the kind of the predicate which they modify. When *beaucoup* is used with telic predicates, as in example (13), the sentence has an interpretation of many events. And in sentences with atelic predicates, as in (14), the sentence can have the iterative interpretation or the degree interpretation, .

(13)   Jean va   beaucoup au   Louvre.
      Jean goes a.lot   to.the Louvre
      'Pierre goes to the Louvre a lot'

<div align="right">(Doetjes 2007, p. 4)</div>

(14)   Il a   plu   beaucoup.
      it has rained a.lot
      'It has rained a lot'

<div align="right">(Doetjes 2007, p. 2)</div>

Doetjes' analysis for *souvent* and *beaucoup* is based on the mass-count distinction on the verbal domain. The author assumes following Bach 1986 that telic verbal phrases (VPs) are countable predicates and atelic are massive. Bach 1986 argues that the same distinction we find in the nominal domain between mass and count predicates can be said of the different types of verbal predicates. Inspired by the description in Link 1983, Bach 1986 shows the similarity between atelic predicates and mass nouns in the sense that they are like the *stuff* that the telic predicates and count names are made.

Doetjes 2007 claims that frequency adverbs as *souvent* can count the events with both telic (count) and atelic (mass) predicates because they have an operation of *times* that makes possible the multiplication of events in any context. This in a mechanism that is intrinsic to the adverb and it is similar to a plural operation. The interpretation of many events in sentences with frequency adverbs are due this property of the quantifiers.

The interpretation of a lot of events in sentences with degree adverbs is a little bit different. According to Doetjes, degree adverbs do not have a *times* operation like the frequency ones. And since the iterative interpretation is build in telic (countable) contexts, she claims that it is due the count nature of the predicate. When degree adverbs such *beaucoup* appear in a sentence with atelic predicates (the massive ones), the sentence has a degree interpretation. Nevertheless the iterative reading is also a possibility. Since Doetjes claims that in sentences with degree adverbs the iterativity is because of the count nature of the predicate she has to postulate that massive predicates as *pleuvoir* 'to rain' shifts from mass to count interpretations in order to capture this reading. Then she can maintain the assumption that the many events interpretation has origin in the count nature of the predicate in sentences with a degree adverb.

2.2.2   Frequency and Degree Adverbs in Karitiana

In this subsection I present my analysis to the frequency and degree adverbs in Karitiana in order to defend that the verbal domain is entirely countable in the language. Frequency adverbs in Karitiana have always an iterative interpretation

(many events), as *souvent* in french. We can notice that the adverb *kandat* is involved in a iterativity semantics with both telic and atelic verbal predicates, examples (15) and (16).

(15) João Ø-na-aka-t   i-'ot-Ø   kandat.
      João 3-DECL-COP-NFUT   PART-fall-ABS   many.times
      'João fell many times'

(16) Inacio Ø-naka-kydn-Ø   kandat.
      Inacio 3-DECL-wait-NFUT   many.times
      'Inacio waited many times'
    *'Inacio waited for a long time once'

So, the frequency operation in Karitiana seems to be very similar to the french one. However, some differences appear when we look to the degree adverbs. As we can see in sentences in (17) and (18), a degree adverb in Karitiana like *pitat* can be used to describe intensity and iterative situations in sentences with atelic predicates.

(17) Taso Ø-na-pytim'adn-Ø pitat.
      man 3-DECL-work-NFUT   a.lot
      'The man worked for a long time'
      'The man worked many times'

(18) Inacio Ø-na-aka-t   i-osedn-Ø   pitat.
      Inacio 3-DECL-COP-NFUT   PART-be.happy-ABS   a.lot
      'Inacio was very happy'
      'Inacio was happy many times'

The distribution above is similar in sentences with *beaucoup*. But there are two crucial differences that made *pitat* different from *beaucoup*. Firstly, differently of *beaucoup* that can occur with all kind of verbal predicates, *pitat* can be used only with atelic predicates. Sentences with *pitat* and accomplishments (19) or achievements verbs (20) are ungrammatical.

(19) *João Ø-na-aka-t   i-tat-Ø   pitat Porto Velho pip.
      João 3-DECL-COP-NFUT   PART-go-ABS   a.lot Porto Velho   to
      'João went to Porto Velho city a lot'

(20) *João Ø-na-aka-t   i-'ot-Ø   pitat.
      João 3-DECL-COP-NFUT   PART-fall-ABS   a.lot
      'João fell a lot'

Besides, *pitat* has an unexpected characteristic: it can be easily used in a wide range of interpretations, not only in iterative contexts and what Doetjes calls a degree situation[6]. The sentence (21) has all the situations in (22) as possibles contexts.

(21) Inacio Ø-na-aka-t   i-pykyn-<a>-t pitat.
      Inacio 3-DECL-COP-NFUT   PART-run-ABS   a.lot
      'Inacio ran a lot'

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[6] In fact, it is not clear what can be considered a degree interpretation in Doetjes' theory. As far as we can see, it seems that it is something related to intensity.

Situations in which sentence (21) can be used:

(22)   a.   Inacio ran for a long time;
         b.   Inacio ran in high velocity.
         c.   Inacio ran a lot of times;
         d.   Inacio ran very intensively, taking much effort.

So. there are at least three reasons that make *pitat* different from *beaucoup:* (i) *pitat* can be used only with atelic predicates and *beaucoup* can be used with both telic and atelic predicates; (ii) as (21) and (22) showed, there are more than just two readings associated with *pitat*; and (iii) as far as we can see the iterative interpretation with pitat in atelic contexts is as important than the others (and should not be explained by an exception rule, like "shift the predicate", as Doetjes postulates for *beaucoup*).

These reasons strongly suggest that Doetjes' analysis is not totally adequate to explain Karitiana data. *Pitat* does not have a dichotomic behavior and doesn't have to be explained by the mass-count distinction in the nominal domain. To analyse frequency and degree adverbs in Karitiana I assume, following Rothstein 1999, 2004, 2008 that the verbal domain does not have a mass-count distinction as the nominal domain, but it is fully countable.

Rothstein 1999, 2004, 2008, as Bach 1986, also made the approximation of mass-count distinction to the different classes of verbal predicates. Nevertheless, she defends that all the verbal domain is countable. The difference found in telic and atelic predicates is not a difference between count and mass predicates, but it reflects the way in which the atomicity criteria (MEAS) is filled. In telic predicates as *to fall* or *to go the movies*, what count as one unit of event is given by the lexicon, as in (23a). On the other hand, verbal predicates like *to wait* and *to rain* don't have lexical atoms, so they are given by the context. In other words the situation informs what count as one atom of *to wait for* or *to rain*, represented by **U** in the formula in (23b).

(23)   a.   [[to fall]] $= \lambda e.\ fall(e) \wedge MEAS(e) = <1,fall>$
         b.   [[to wait for]] $= \lambda e.\ wait\ (e) \wedge MEAS(e) = <1,U>$

One of the Rothstein's strongest argument is that apparently there are no classifiers in the verbal domain as we find in the nominal one. Verbal phrases can be easily counted, differently of adjectival phrases for instance. As the sentences in (24) show, the counting operation can only occur in a presence of a verb (*be*). That is why the iterative adverb *three times* can only be associated to the main predicate *made* in sentence (24a). In (24b), otherwise the adverb can be associated to the the main or to the embedded predicate. In other words, *ill* is a predicate that cannot be counted but *be ill* can. This means that the domain of eventualities denoted by adjectives like *ill* can be massive, but the domain of events denoted by verbal predicates like *be ill* is countable.

(24)   a.   The witch made John ill three times.
         b.   The witch made John be ill three times.

<div align="right">(Rothstein 2008, p. 12)</div>

We can see in sentences in (25) that since the predicate without a verb as in (25a) cannot be pluralized it cannot distribute to the participants *John and Mary* and the sentence is ill-formed. (25b) is felicitous because the verb *be* make the plural of the event possible, and so it can be distributed.

(25) a.   #The witch made John and Mary each ill.
      b.   The witch made John and Mary each be ill.

<div align="right">(Rothstein 2008, p. 12)</div>

Inspired by the work of Rothstein, in a previously work (Sanchez-Mendes 2011) I analyzed the interpretation of frequency and degree adverbs in Karitiana assuming that the verbal domain is countable in the language. The paper claimed that the interpretation of many events associated to the frequency adverbs as *kandat* in Karitiana is available because the entirely verbal domain is countable. So the counting of events is always a possibility; it does not have to be preceded by an operation of *times* as in the Doetjes' proposal.

The frequency operation in Karitiana is understood as a pluralization of the events occurrences that can be applied to all the verbal contexts in the language. The interpretation has origin in the count nature of the predicate but not in a particular property of the quantifier, as suggest by Doetjes to *souvent* that the adverbs has a special component responsible by counting events. The table 1 below resumes the two proposals presented to frequency adverbs. It must be said that my idea here is the same idea that Doetjes proposed to explain iterativity with degree adverbs.

Table 1. Comparing proposals to frequency adverbs

Frequency Adverbs	
Doetjes 2007	**My proposal**
The iterativity is due a special component of the verb.	The iterativity has origin in the count nature of the predicate.

Since I propose an analysis to the frequency operation with one less operation, we already can see an advantage of this proposal. But assuming that all the verbal domain is countable will be really advantageous in the analysis of the degree adverbs. First, if we consider that all the verbal predicates are countable, not only the telic ones, we eliminate the problem of explaining the iterative interpretation in sentences with *beaucoup* and an atelic predicate like *to rain*. In Doetjes' proposals, the verb has to suffer an shift from mass to count in order to be pluralized. In my suggestion the multiplication in this context can be explained in the same sense as in the frequency ones, there is, by the countable nature of the predicate.

I assume that the possibility of specifying a degree content is a characteristic of degree adverbs that cannot be found in frequency operators. So the proposal seems to us more natural since the adverb that carry an extra meaning is the one that has an extra grammatical component. The assumption that the verbal domain is countable is already advantageous to explain the degree operation in french. When dealing with *pitat* of Karitiana it also seems interesting. As we saw in sentence (21) repeated below in (26), *pitat* can only appear in sentences with atelic predicates and it has a very rich semantics originating a range of interpretations.

(26) Inacio Ø-na-aka-t   i-pykyn-<a>-t pitat.
      Inacio 3-DECL-COP-NFUT   PART-run-ABS   a.lot
      'Inacio ran for a long time'
      'Inacio ran in high velocity'
      'Inacio ran a lot of times'
      'Inacio ran very intensively, taking much effort'

Since *pitat* can only occur with atelic predicates and the interpretation of many events is as important as the others in these contexts, I don't think that it might be explained by an exception rule like "shift the predicate", as in Doetjes' proposal. Here, as in the other cases, the iterativity is due the count nature of the predicate. So I offered a simpler proposal in witch the plurality of events has always the same explanation, differently from Doetjes' proposal that claim, as we saw in the previous section, that iterative interpretations have different origins in sentences with frequency and degree adverbs. The comparison of the proposals is presented in the table 2.

Table 2. Comparing proposals to degree adverbs

Degree Adverbs (DA)			
Doetjes 2007		**My proposal**	
DA + count predicate = iterative interpretation	The iterativity has origin in the count nature of the predicate.	DA + telic predicate = iterative interpretation	The iterativity has origin in the count nature of the predicate[7].
DA + mass predicate =	a) degree interp.	Degree is due the mass nature of the predicate.	DA + atelic predicate =	a) degree interp.	Degree is due a special component of the verb.
	b) iterative interp.	The predicate shifs from mass to count. The iterativity has origin in the count nature of the predicate.		b) iterative interp.	The iterativity has origin in the count nature of the predicate.

2.2.3 Pluractionality

We saw that considering the verbal domain countable helped to give an appropriate analysis to the frequency and degree adverbs in Karitiana. In this subsection I will retake pluractionality in order to reinforce the argument. As presented above, pluractional affixes make a plural operation on the cumulative denotation of verbs in

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[7] This part of my proposal is to cases like *beaucoup*. Since *pitat* cannot occur with ateli predicates, it does not apply too it. The analysis of the distribution and meaning of *pitat* was presented in Sanchez-Mendes 2011b.

Karitiana. Plural is an operation that is understood as a counting process in a certain domain. Since only the domains that have semantic units can be counted, the plural operation can be used as a test of countable phrases. Massive predicates for instance are atomless, so they cannot be counted.

As the examples below exhibit, the pluractional affixes in Karitiana can occur with all kinds of verbs and always have a semantics of plural occurrences, there is, the iterative reading. Sentences in (27) and (28) show that telic predicates (accomplishments and achievements) can be pluralized, as predicted by the mass-count distinction proposed to the verbal domain (Bach 1986).

(27)   a.   João Ø-na-aka-t   i-tat-Ø   Porto Velho pip.
               João 3-DECL-COP-NFUT PART-go-ABS   Porto Velho   to

               'João went to Porto Velho city (once or more than once)'

       b.   João Ø-na-aka-t   i-tat-tat- Ø   Porto Velho pip.
               João 3-DECL-COP-NFUT   PART-go-DUPL-ABS Porto Velho
         to
               'João went to Porto Velho city (more than once)'

(28)   a.   João Ø-naka-typ-Ø   carro sara'it.
               João 3-DECL-discover-NFUT   car   problem
               'João discovered the problem of the car (once or more than once)'

       b.   João Ø-naka-typ-typ-Ø   carro sara'it.
               João 3-DECL-discover-DUPL-NFUT   car problem
               'João discovered the problem of the car (more than once)'

However, atelic predicates (activities and states) also can be pluralized by verbal duplication, as showed by examples (29) and (30).

(29)   a.   João Ø-na-aka-t   i-pykyn-t.
               João 3-DECL-COP-NFUT   PART-run-ABS
               'João ran (once or more than once)'

       b.   João Ø-na-aka-t   i-pykyn-pykyn-t.
               João 3-DECL-COP-NFUT   PART-run-DUPL-ABS
               'João ran (more than once)'

(30)   a.   Inacio Ø-na-aka-t   i-osedn-Ø.
               Inacio 3-DECL-COP-NFUT   PART-be.happy-CONC.ABS.
               'Inacio was happy (once or more than once)'

       b.   Inacio Ø-na-aka-t   i-osedn-osedn-Ø.
               Inacio 3-DECL-COP-NFUT PART-be.happy-DUPL-CONC.ABS.
               'Inacio was happy (more than once)'

Since all the verbal domain can be pluralized in Karitiana, this is a further argument that this domain is entirely count in the language. I presented that by the Rothstein's proposal difference between telic and atelic predicates will be that the

atoms that are counted in telic predicates are given by the lexicon while the atoms of atelic predicates are given by context. In (27) and (28), for example, the atoms are each event of going to Porto Velho and each discover a different problem. In (29) and (30), the appropriate context will give what is considered one event of running ore one event of being happy.

So, the idea I adopt here is that counting is not a matter of natural atoms but of semantic atoms. The count-mass distinction and the pluralization are grammatical phenomena that are independent of cognitive operations that require the perception of individuals. The count-mass distinction is better described in terms of how the expressions refer (not to what they refer in the world). Since we can grammatically count the events in Karitiana we can say that they are in a countable domain.

3   Theoretical Discussion

This section discusses some possible theoretical consequences of the claim that a domain has both cumulative and count denotation. The goal here is to show that cumulative and count properties are not theoretically incompatibles. The apparent incompatibility that can emerge of a claim such as that is because cumulativity is a property traditionally attributed to massive predicates (Link 1983). But cumulativity is not exactly the feature that distinguishes mass and count predicates. In Link's theory what distinguishes mass and count predicates is homogeneity[8].

At first sight cumulativity and homogeneity seems to be very similar, but for this work their difference is crucial. In their definition in (31) and (32) (based on Krifka 1992 and Rothstein 2007) we can see that homogeneity is a propriety of predicates that is attributed to the parts of predicates, or in other word is a downward characteristic. And cumulativity, on the other hand, is a kind of upward property, that says something about the sums of the individual in the denotation of the predicate.

(31)   Homogeneity:
A predicate P is homogeneous if: for any $x \in P$, and for any y: $y \leq x \wedge \neg\, y = x$ $\rightarrow y \in P$
"A predicate P is homogeneous if, and only if, for any x that is in P, all the parts y of x, that are different of x, are also in P."

(32)   Cumulativity:
A predicate P is cumulative if: $x \in P$ and $y \in P$ an $\neg\, x = y$ then $x \oplus y \in P$
"A predicate P is cumulative if, and only if, when there are two distinct individuals x and y that both are in P, then the sum of x and y is also in P."

So, there is nothing in the cumulativity definition that prevent the counting operation on a cumulative predicate. Indeed the approximation between cumulativity and mass predicates holds. But the fact is that all massives are cumulative, but not all cumulative predicates are massive. Rothstein 2007 shows for instance that there are count nouns that are cumulative such as *fence* and *line.*

Besides, when defending that all simple predicates denote cumulative sets,

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[8]It must be said that Rothstein 2007 shows good evidence that neither cumulative nor homogeneity can distinguish count from mass predicates. Since homogeneity is not an issue in this paper I will not discuss it and will follow the classical proposal in Link 1983.

Kratzer 2001, 2008 points out that the problem that cumulative denotation of verbs can evoke is related to collective and distributive contexts with plural individuals like 'Casey and Stacey lifted the green box'). But some works such as Lasersohn 1995 argues that there are enough arguments to analyze these contexts with the standard conceptions of mereology and the cumulativity. So the problems that can emerge in considering the verbal domain cumulative are not related to the pluralization, at least not in the sense of pluractionality.

Then, I consider that the best analysis to describe the behavior of the pluractional markers and frequency and degree adverbs in Karitiana has to take in account both cumulativity and countability.

4 Conclusions

This paper defended that the verbal in domain in Karitiana has both cumulative and count denotations. It showed that verbal number supports the cumulativity hypothesis (in the syntatic level) and that verbal number and adverbial quantifiers support the hypothesis of countable verbal predicates. I briefly discussed the theoretical effects of this claim and pointed out that the semantic theory holds these concepts without incompatibility.

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