

## Number and the mass/count distinction in Karitiana

Ana Müller, Luciana Storto & Thiago Coutinho-Silva\*  
University of São Paulo (USP)

This paper investigates the syntax and semantics of the NP in Karitiana, and assesses its implications for a semantic theory concerning the expression of the notion of number and of the mass/count distinction in natural languages. The paper also aims to assess the possibility of occurrence of arguments without the presence of functional material. We argue that the bare nominals in Karitiana have denotations of a cumulative nature. However, we also affirm that Karitiana makes a lexical distinction between mass and count nouns. In addition, we maintain that nominal arguments in Karitiana do not have functional constituents.

### 1 Introduction

Karitiana is the sole surviving language of the Arikém family (Tupi Stock), and is currently spoken by approximately 330 people living on a demarcated Indian reservation 95 kilometres from Porto Velho, capital of the state of Rondônia, Brazil.

The Noun Phrases (NPs) in Karitiana occur as bare arguments, without any apparent functional material presence as articles, quantifiers, classifiers, or morphological markers of number. For example, the bare noun *gooj* (canoe) in sentence (1) below, and the bare noun *ōwā* (child) in sentence (2) can be used to refer to entities which are singular or plural, definite or indefinite, as can be seen from the translations given<sup>1</sup>:

- (1) Maria nakam'at                    gooj  
      Maria naka-m-'a-t            gooj.  
      Maria decl-caus-make-nfut canoe  
      'Maria built the/a/some canoe(s)'

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<sup>1</sup> Glosses are as follows: 1<sup>st</sup> line: orthographic transcription, 2<sup>nd</sup> line morphological segmentation. Symbols used: nfut = non future, aux = auxiliar, part = participle, redupl = reduplication, decl = declarative, caus = causative, s = singular, pl = plural, 3anaph = 3<sup>rd</sup> person anaphoric prefix, nomlZR= nominalizer, sub = subordinator, assert = assertative.

- (2) Ōwā naokoot y'it  
 ōwā na-okoot-∅ y-'it  
 child decl-bite-nfut 1s-son (man speaking)  
 'The/a/some/children bit my son'

The aim of this paper is to investigate the syntax and semantics of the NP in Karitiana, and to assess the implications of the behavior of their bare nominals<sup>2</sup> for a semantic theory concerning the expression of the notion of number and the mass/count distinction in natural languages. The paper also aims to assess the possibility of occurrence of bare arguments, i.e. nominals without the presence of functional material.

In this paper, we argue that the bare nominals in Karitiana have denotations of a cumulative nature. However, we also affirm that Karitiana makes a lexical distinction between mass and count nouns. In addition, we maintain that nominal arguments in Karitiana do not have functional constituents.

## 2 NPs in Karitiana

In this section, we will present relevant data concerning the NPs in argumental position in Karitiana. We will show that, in Karitiana, the NP is, at least superficially, devoid of any functional operator as an inflection of number, as a marker of determinacy or non-determinacy, or of quantificational operators.

There is no morpho-syntactic marker for number in the nominal system in Karitiana. In sentence (3) below, the phrase *myhint pikom* (one monkey) is semantically singular, whilst in sentence (4) the phrase *sypomp pikom* (two monkeys) is semantically plural. However, the NPs of both sentences remain uninflected for number in both contexts. Sentence (5) conveys the meaning that the speaker ate an undefined number of monkeys (one or more) which is expressed by the uninflected bare noun *pikom*. Sentences (3) and (4) also demonstrate that Karitiana is not a language which demands numeral classifiers in phrases concerned with counting, since the numerals are linked directly to the common noun, without the need for classifiers.

- (3) Yn naka'yt myhint pikom  
 yn naka-'y-t myhin-t pikom  
 1s decl-eat-nfut one monkey  
 'I ate one monkey.'

- (4) Yn naka'yt sypomp pikom  
 yn naka-'y-t sypom+t pikom  
 1s decl-eat-nfut two monkey  
 'I ate two monkeys'

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<sup>2</sup> We will use the terms 'bare nouns' or 'bare nominals' to refer to nominal expressions divested of functional operators as determiners, inflectors of number, classifiers, or quantifiers.

- (5) Yn naka'yt pikom  
 yn naka-'y-t pikom  
 1s decl-eat-nfut monkey  
 'I ate (a/some) monkeys'

In Karitiana, there is no marker for definiteness/indefiniteness and/or definite/indefinite determiners. Bare nouns are understood as defined or undefined from the context in which they occur. In sentence (6) below, for example, both *taso* (man) and *boroja* (snake) can be understood as defined or undefined, singular or plural, depending on the context in which the sentences are uttered. Sentence (6) also demonstrates that the denotation of common nouns in Karitiana does not differentiate for number, since the sentence conveys the meaning that one or more snakes were eaten by one or more men.

- (6) Taso naka'yt boroja  
 taso naka-'y-t boroja  
 man decl-eat-nfut snake  
 'A/the some man/men ate a/the/some snake(s)'

Even the function expressed by demonstrative pronouns such as *this*, *that*, and *that* in English are expressed differently in Karitiana. English expressions such as *that man* or *that/those wild boar(s)* are translated in Karitiana by means of utterances which are the equivalent of *man/wild boar who/which is over there* or *wild boars which are moving*. This is illustrated in sentences (7) and (8).

- (7) Dibm nakatari ony taso aka  
 dibm naka-tar-i ony taso aka  
 tomorrow decl-go-fut there man be  
 'That man will go tomorrow'  
 (literally: Man [which] be over there will go tomorrow)
- (8) Ma sojxaty aka kyn nakapon João  
 ma sojxaty aka kyn nakapon-ø João  
 over there (moving) wild.boar be at shoot João  
 'João shot at those wild boars'  
 (literally: John shot at wild boars which be moving)

In languages such as English, quantifiers such as *every*, *much*, *nobody*, and numerals belong in the nominal phrase, as illustrated in sentences (9) and (10) in English. These quantifying expressions occupy functional positions in the determiner phrase (DP). The correspondence between active and passive voice, and the alternation between subject and object position, illustrate the fact that quantifier and common noun form a single constituent.

- (9) John shot at [every wild boar]

(10) [Every wild boar] was shot

Karitiana does not seem to have nominal quantifiers in the same way as English or English. Quantifying expressions have both adverbial and nominal behavior. The informant uses the word *si'irimat* indistinctly to signify either *nobody* or *never*, as can be seen in sentences (11) and (12) below. In sentences (13) and (14), the word *kandat* (much) is used to express both quantification of nouns (13) and of verbs (work a lot) (14).

(11) Isemboko padni si'irimat eremby  
i-semboko padni si'irimat eremby  
3-get.wet neg ever hammock  
'Hammocks never get wet'

(12) Iaokooto padni si'irimat y'it  
i-a-okooto padni si'irimat y-'it  
3-pass-bite neg ever 1s-son  
'Nobody bit my son' (literally: My son was never bitten)

(13) Kandat nakahori dibm taso  
kandat naka-hot-i dibm taso  
a.lot decl-go-fut tomorrow man  
'Many men will go tomorrow'  
(literally: Men will go a lot tomorrow)

(14) Pyrykiidn ̃jonso pytim'adn kandat tyym  
pyry-kiid-n ̃jonso pytim'adn kandat tyym  
assert-exist-nfut woman work a.lot sub  
'There are many women that work a lot'

The numerals could constitute a potential counter-example to the claim that the nominal system in Karitiana is divested of functional operations, since they appear to be in a functional position which is typical of nominal quantifiers, as we saw in sentences (3) and (4). Karitiana has a numerical system with units from 1 to 5. Larger numerals are composed of these basic units. However, when these numerals are accompanied by a noun, they occur with the oblique suffix *-t*. *Myhint pikom* (one monkey) in sentence (3) and *sypomp pikom* (two monkeys) in sentence (4), for example, can be understood approximately as 'monkeys in two'.

Table 1: Numerals in Karitiana		
Numerals	Morphological Composition	Word
1	myhin+t one-obl	myhint
2	sypom+t two-obl	sypomp

Universal quantification is not expressed by a quantifier. The expression which conveys universal quantification – *(ta)akatyym* – is composed of a third person anaphora (the prefix *-ta*), the verb ‘to be’ (*aka*) and the subordinate particle (*tyym*). This expression literally signifies something like *those who are*. Anaphoric *ta* is used when the quantifying expression is not adjacent to the noun it modifies. In sentences (15) and (16), we can see that *taakatyym* occupies the same position, and can apply either to the object, as in (16), or to the subject, as in (17). Sentence (17), on the other hand, demonstrates that the quantifying expression can occupy another position in the sentence - adjacent to the noun which determines the domain of quantification given (the restriction). In this case, the anaphoric particle *-ta* is not necessary.

- (15) Taakatyym naponpon João sojxaaty kyn  
 ta-aka-tyym na-pon-pon-Ø João sojxaaty kyn  
 3 anaph-be-sub decl-shoot-redupl-nfut João wild.boar at  
 ‘João shot at every wild boar’  
 (literally: João shot at wild boar that be)
- (16) Taakatyym naponpon taso sojxaaty kyn  
 ta-aka-tyym na-pon-pon-Ø taso sojxaaty kyn  
 3anaph-be-sub decl-shoot-redupl-nfut man wild.boar at  
 ‘All the men shot at the boar’  
 (literally: Men that be shot at wild boar)
- (17) Sojxaaty akatyym naponpon João  
 sojxaati aka-tyym na-pon-pon-Ø João  
 wild.boar be-sub decl-shot-redupl-nfut João  
 ‘João shot at all the monkeys’  
 (literally: João shot at the monkeys that are)

We can thus see that the nominal system occurs totally divested of functional constituents such as inflection for number, determinants, or quantifiers. These NPs are interpreted as neutral in relation to number, and can refer both to singular and plural entities. They are also neutral in terms of definiteness. In the next section, we will discuss the denotation of common nouns in natural languages. We will see that not all languages express the singular/plural and count/mass distinctions in the same way.

### 3 Creating individuals: number and the count/mass distinction.

In this section, we will see how the different standards of syntactic and morphological behavior relate common nouns to their denotations, or rather to the type of entities to which these nouns may refer. Common nouns are traditionally divided into mass and count nouns. The intuitive difference between the two categories is that count nouns refer to entities which are conceived of as being discrete, and mass nouns refer to entities which are conceived of as being continual.

This difference manifests itself grammatically in many languages. Let us use an illustration from English, which is the most exhaustively-discussed language in the literature on the subject. In English, count nouns have a plural form and a singular form, as illustrated in the sentences in example (18). Another characteristic of count nouns is that they can be directly combined with numerals. This property is also illustrated by the sentences in example (26).

- (18) a. There is one apple on the table.  
b. There are two apples on the table.

Mass nouns cannot, however, be directly counted, as illustrated in the sentences in example (19). These nouns require classifiers or measure phrases to be appropriately counted, as can be seen by the contrast between the ungrammatical sentences (19a, b) and the grammatical sentence (20a), through the insertion of the measure phrase *bars*. In addition, mass nouns cannot be marked for plural, as is shown in sentence (20b).

- (19) a. \* There is one gold on the table.  
b. \* There are two golds on the table.

- (20) a. There are two bars of gold.  
b. There are two bars of golds.

Certain quantifiers only collocate with count nouns, others only with mass nouns. The quantifying expression *little*, for example, only collocates with mass nouns. This property is exemplified in the sentences in example (21). In (22a), the use of *little* with the count noun *apple* makes the sentence ungrammatical. In (21b), the same quantifier is used with the mass noun *gold*, and the sentence becomes grammatical. The word *several*, on the other hand, can only be used with count nouns, as illustrated in the sentences in example (22). Count nouns can be placed in order, as in sentence (23a), which is not the case with mass nouns, as in sentence (23b).

- (21) a. \* I bought little apple.  
b. I bought little gold.

- (22) a. I bought several apples.

b. \* I bought several gold(s).

- (23) a. My second apple was fantastic.  
b. \* My second gold was fantastic.

Link 1983 proposes that the denotations of count and mass nouns belong to different ontological domains. According to Link, language describes the world as containing two distinct types of entity: (i) discrete or atomic entities and (ii) undifferentiated matter or substance. This distinction may be illustrated in the following way: if you divide an apple in two, each of the parts is no longer an apple; but if you divide a quantity of gold into two quantities of gold, each of them is still a quantity of gold. By the same token, if you put one apple together with another apple, you get two apples. But if you add one quantity of gold to another quantity of gold, the two together form a single quantity. This property of the denotations of mass nouns is known as ‘cumulativity’.

Once this ontology has been accepted, the inflection of number is interpreted as an operation on the domain of discrete entities, since it is only in this domain that the distinction between atomic entities (units) and plural entities (groups formed by two or more units) makes sense. This is because only count nouns can be pluralized. Count common nouns are analyzed as denoting sets of atomic individuals.<sup>3</sup> The denotation of a singular common noun like *pig* is the set of all pigs, as illustrated in (24). Plural common nouns, on the other hand, are described as denoting atomic and plural individuals, or rather, sets of one or more individuals, as illustrated in example (25) of the count plural noun *pigs*.

(24) [[**pig**]] = {pig-a, pig-b, pig-c....}

(25) [[**pigs**]] = {pig-a, pig-b, pig-c, ..., {pig-a, pig-b}, {pig-b, pig-c}, {pig-a, pig-c}, ..., {pig-a, pig-b, pig-c}, ...}

The semantic treatment of common nouns described above may be referred to as ‘classical’, and is the position traditionally put forward in introductory manuals to formal semantics.<sup>4</sup> It was based on the behaviour of the majority of the Romance and Germanic languages. In these languages, singular nouns cannot occur in contexts which are semantically plural. Plural nouns, on the other hand, may occur both in plural and in neutral contexts. In English, for example, singular count nouns can occur only in singular contexts. The contrast in grammaticality between examples (26) and (28) illustrates this fact. Sentence (27) is ungrammatical because the meaning of the singular common noun *boar* conflicts with the plural meaning of the numeral *two*. Plural count nouns, on the other hand, can occur both in plural contexts and in contexts which are neutral in

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<sup>3</sup> In fact, common nouns denote functions from possible worlds to sets of individuals. In this article, we will keep to an extensional description of denotations, or rather we will not use intensional denotations, i.e. we will not employ functions which take possible worlds as arguments.

<sup>4</sup> See, for example, de Schwart 1998, and Portner 2005.

relation to the number of entities denoted. Sentence (28) shows that a singular count noun in English cannot express neutrality in relation to number, whereas this can be done by a plural count noun, as in sentence (29). It is worth noting that sentence (29) is true if John bought only one, or two or more apples.

- (26) John killed one boar.
- (27) \* John killed two boar.
- (28) \* John bought apple.
- (29) John bought apples.

There are, however, languages such as Mandarin Chinese, Japanese, and Thai, which have no inflection for number (unless it is optional) and, at the same time, have classifiers whose use is obligatory in contexts related to counting. In Mandarin, for example, the use of a classifier is necessary both for the counting of nouns which are apparently count, such as *bi* (pen), and for the counting of nouns which are apparently mass, such as *mi* (rice), and where the counting units are unclear. The contrast in grammaticality caused by the presence of classifiers in the expressions in (30a) and (31a), and by their absence in the expressions in (30b) and (31b), is worth noting.

- (30) a. liang lì mi                      *Chinese* (Chierchia 1998b)  
two CL rice  
'two grains of rice'  
b. \* liang mi  
two rice  
'two rice'
- (31) a. san lì bi                        *Chinese* (Cheng & Sybesma 1999)  
three CL pen  
'three pens'  
b. \* san bi  
three pen  
'three pen'

Languages with classifiers have been analysed in the literature as languages in which common nouns are all mass (cf. Chierchia 199a,b and Krifka 1995, *inter alia*). In such languages there would be no distinction between mass and count nouns. The function of classifiers would be to transform the mass denotation of common nouns into a denotation composed of atomic entities, thus making such nouns capable of being counted.

If this version of the facts were appropriate, one would expect classifiers in such languages to be obligatory (or at least optional) in all contexts relating to counting, since their presumed function is to create individuals. However, in contexts of universal quantification, the use of classifiers makes expressions ungrammatical (Gil & Tsoulas 2005). It is worth noting that, in the examples in Japanese, the quantified expressions without classifiers, as in

sentences (32a) and (33a) are grammatical, whereas the quantified expressions with classifiers are ungrammatical.

- (32) a. dono hon mo<sup>5</sup> *Japanese* (Gil & Tsoulas, 2005)  
 which book Q  
 'every book'  
 b. \* dono hon-satsu mo  
 which book-CL Q  
 'every book'
- (33) a. etten chayk to *Korean* (Gil & Tsoulas, 2005)  
 which book Q  
 'every book'  
 b. \* etten chayk-kwenn to  
 which book-CL Q  
 'every book'

When one examines a wider range of languages, the apparent dichotomy between classifiers and inflection of number becomes unsustainable. Languages such as Yáguá (of the Peba-Yaáguá family, spoken in the North-east of Peru) and Totonac (of the Totonac-Tepéhua family, spoken in the Sierra Norte region of Mexico) have both classifiers and inflection for number. Examples (34) to (36) show the existence of inflection of number in Yáguá. Example (37), however, illustrates the use of classifiers in contexts relating to counting.

- (34) wadero-nu *Yagua* (Payne 2004)  
 young.man-S  
 'young man'
- (35) wadero-nuuy *Yagua* (Payne 2004)  
 young.man-DUAL  
 'young men '
- (36) wadero-way *Yagua* (Payne 2004)  
 Young man-PL  
 'young men'
- (37) ta-ra-kii cucháára *Yagua* (Payne 2004)  
 one-CL-one spoon  
 'one spoon'

As we have seen with Karitiana, there are also languages which have neither classifiers nor inflection for number. This is the case with Dëne Suliné,

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<sup>5</sup> Q: marker of question form.

a native Canadian language of the Athabaskan family (cf. Wilhelm 2005).  
 Examples (38)-(39) illustrate the absence of both quantifiers and classifiers in  
 contexts related to counting in Dëne Suliné.

(38) solághe bek'eschích'elyi      *Dëne Suliné* (Wilhelm 2005)  
 five table  
 'five tables'

(39) solághe tthe      *Dëne Suliné* (Wilhelm 2005)  
 five stone  
 'five stones'

There are also languages in which inflection for number is optional.  
 Languages such as Hungarian and Turkish do not use classifiers or inflection for  
 number in counting, but nevertheless have inflection for singular-plural.  
 Sentences like those in example (40) demonstrate the existence of markers of  
 plurality in Hungarian, whilst the example (41) demonstrates that nouns can be  
 counted without the use of inflection.

(40) Mari verseket olvas      *Hungarian* (Rullmann & You 2003)  
 Mari poem.PL.ACC read  
 'Mary reads poems'

(41) ot hajo      *Hungarian* (Rullmann & You 2003)  
 five ship  
 'five ships'

On the other hand, many writers have argued in favor of the existence  
 of the count/mass distinction both in languages which use classifiers (cf. Cheng  
 & Sybesma 1999, and Doetjes 1979, on Chinese), and languages which have  
 neither classifiers nor inflection for number (cf. Wilhelm 2005, on Dëne Suliné).  
 These writers call into question the existence of a necessary correlation between  
 the presence of classifiers and the presence of mass denotations. In Dëne Suliné,  
 for example, the count/mass distinction manifests itself by means of the fact that  
 count nouns can occur directly with numerals, as in example (42), whilst mass  
 nouns are ungrammatical in the absence of some type of classification or system  
 of measurement, as in example (43).

(42) solághe tthe      *Dëne Suliné* (Wilhelm 2005)  
 five stone  
 'five stones'

(43) \*solághe sugaq      *Dëne Suliné* (Wilhelm 2005)  
 five sugar  
 'five sugar'

We have seen, therefore, that there is no obligatory correlation between inflection for number and mass nominal denotation. In the next section, we will deal with the expression of number and the count/mass distinction in Karitiana.

#### 4 Bare nominals, number, and the count/mass distinction in Karitiana

In section 2, we saw that there is no marker for the singular-plural distinction in the NPs of Karitiana. We also demonstrated that these NPs are semantically neutral in relation to the number of entities they can denote. Sentence (1) signifies that Maria built one or more canoes. As such, we cannot attribute a denotation consisting only of atomic individuals to common nouns in Karitiana, although this is the denotation traditionally postulated for count common nouns. The behavior of Karitiana leads us to conclude that the common nouns in the language have denotations which are neutral in relation to the number of entities they can denote.<sup>6</sup> Thus one can conclude that the denotation of a common noun in Karitiana encompasses both singular and plural individuals. The denotation of the common noun *gooj* (canoe) is illustrated in (44). This denotation contains both individual canoes (atoms) as well as groups of two, three or more canoes.

- (44)  $[[\text{gooj}]] = \{\text{canoe-a, canoe-b, canoe-c, \dots, \{canoe-a, canoe-b\}, \{canoe b, canoe c\}, \{canoe-a, canoe-c\}, \dots, \{canoe-a, canoe-b, canoe-c\}, \dots\}$

The absence of number permeates the whole nominal system of Karitiana. Even the personal pronouns do not differentiate between singular and plural. The paradigm of personal pronouns is set out in Table 2. The third person is clearly non-variable. However, the pronouns which would correspond to second and third person plural in English incorporate the anaphoric form of third person *ta* or the third person pronoun *i* in Karitiana, as is explained in the second column in Table 2.

Pronoun	Morphology	Person	Meaning
yn	y+n	1s	I+ participant
na	a+n	2s	you + participant
i	i	3	other (non-participant)
yjxa	y+i+ta	1pl (inclusive)	I+other(s)+anaphor
yta	y+ta	1pl (exclusive)	I+anaphor
ajxa	a+i+ta	2pl	you+other(s)+anaphor
i	i	3	other

<sup>6</sup> The existence of neutral denotations in relation to number has also been postulated for other languages (cf. Rullmann & You 2003 for Chinese; Müller 2001 for Brazilian Portuguese; Wilhelm 2005 for Dëne Suliné).

It is evident that there is no marker for plurality in any of the ‘plural’ pronouns, nor is there any morpheme which signifies ‘more than one’. One only knows that more than one person is involved because of the listing of participants. The first person exclusive (*yta*), for example, means something similar to ‘I + other(s) like me’.

As mentioned in section 3 above, common nouns which are non-variable in relation to number distinction are commonly assimilated to mass nouns (cf. Chierchia 1998a, b, Krifka 1995, and Borer 2005, *inter alia*). However, Karitiana makes a distinction between mass and count nouns: some nouns can be counted directly, as illustrated in sentence (6), whilst others require measure phrases in order to be counted. The contrast in grammaticality between examples (45) and (46), and (47) and (48) demonstrates that certain nouns can only be counted if a system of measurement is introduced.

(45) \* Myhint ouro naakat i'orot  
 myhin-t ouro na-aka-t i-'ot-<o>t  
 three gold decl-aux-nfut part-fall-redupl-nfut  
 ‘Three golds fell’

(46) Myhint kilot ouro naakat i'orot  
 Myhin-t kilo-t ouro na-aka-t i-'ot-<o>t  
 One kilo-obl gold decl-aux-nfut part-fall-redupl-nfut  
 ‘One kilogram of gold fell’

(47) \* Jonso nakaot sypomp ese  
 ʃonso naka-ot-∅ sypomp ese  
 woman decl-bring-nfut two water  
 ‘The woman brought two waters’

(48) ʃonso nakaot sypomp bytypip ese  
 ʃonso naka-ot-∅ sympom-t byt-ypip ese  
 woman decl-bring-nfut two-obl bowl-in water  
 ‘The woman brought two bowls of water’

It can therefore be seen that, on the one hand, nouns in Karitiana are neutral in relation to the marking of number but, on the other hand, they are not all mass. However, there is a property normally attributed to mass nouns which is also typical of count nouns that have a neutral denotation for number, and this is cumulativity. A constituent P has cumulative reference if the sum of two instances of P is equal to P (cf. Krifka 1992). Therefore, if we say in English *this is gold* and *that is gold*, the sum of the two quantities is also called *gold*. The same standard does not hold for count nouns. If *this is a chair* and *that is a chair*, the two objects together are *chairs* and not *chair*.

In Karitiana, the denotation of bare nouns, be they count or mass, is cumulative, so that if a *pikom* (monkey) is added to another *pikom*, one can say that the two animals are *pikom*. And if this is *ese* (water) and that is *ese*, the two

quantities are also *ese*. In this way, we can see that cumulativity is not an exclusive property of mass nouns. The denotation of a noun can be cumulative, but without its being necessarily mass.

## 5 Conclusion

We began by demonstrating that common nouns in Karitiana are neutral in relation to number, that is, their denotations include both singularities and pluralities. On the basis of this type of evidence we concluded that, contrary to what is traditionally claimed, denotations of uninflected common nouns are not necessarily atomic.

Secondly, we demonstrated that nouns in Karitiana are directly count without the need of inflection for number or classifiers (except in the case of mass nouns). We can therefore conclude that, when a noun is neutral in relation to number, it is still possible for it to be count or to be individualised, contrary to the view traditionally held in the relevant literature.

Thirdly, we showed that nouns in Karitiana make a lexical distinction between mass and count. Nouns which are neutral in relation to number have been identified as mass in the literature. The fact that Karitiana has neutral nouns in relation to number which can be either count or mass leads us to conclude that being neutral in relation to number is not necessarily equal to being mass.

Finally, the superficial absence of functional projections in Karitiana leads us to question claims, like those of Longobardi (1994, 2000), that arguments are necessarily determiner phrases.

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Ana Müller  
[anamuler@usp.br](mailto:anamuler@usp.br)  
 Luciana Sorto  
[storto@usp.br](mailto:storto@usp.br)  
 Thiago Coutinho-Silva  
[thiagocs@usp.br](mailto:thiagocs@usp.br)