

THE SEMANTICS OF BARE NOUNS IN KARITIANA¹

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INTRODUCTION

Karitiana is a native Brazilian language spoken by approximately 400 people, who live in a reservation located in Southwestern Amazonia (Claudio Karitiana, pc). It is the only surviving language of the Arikem branch of the Tupi family. Karitiana is (mostly) verb second in main declarative clauses and it is verb-final in subordinate clauses.² It is an ergative language: intransitive verbs agree with their subjects; whereas transitive verbs agree with their direct objects (see STORTO, 1999).

Karitiana Noun Phrases (NPs) have no inflectional morphology; they are unmarked for any functional distinctions, such as gender, case, or number. Karitiana is also a determinerless language, and has no words comparable to Romance or Germanic articles,

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2 Note, however, that the examples used in this paper can show other word-order patterns according to the use of other non-declarative moods.

demonstratives or determiner quantifiers. We illustrate these facts and the many ways Karitiana Bare NPs may be interpreted in examples (1) and (2). The Verb Phrase in (1) illustrates the occurrence of a Bare Noun (BN) in object position; whereas sentence (2) illustrates a BN occurring in subject position. Note that BNs may be interpreted as definite, indefinite or generic in all argument positions, *modulo* lexical selectional restrictions.

- (1) 'y **kinda'o**³
eat fruit

Possible interpretations:

- | | |
|------------------------------|-------------------------------------|
| 'eat fruits' | <i>generic</i> |
| 'eat the fruit/a fruit' | <i>definite/indefinite singular</i> |
| 'eat the fruits/some fruits' | <i>definite/indefinite plural</i> |

- (2) **Ōwā** Ø-na-aka-t i-sea-t.⁴
child 3-DECL-COP-NFT PART-beautiful-ABS.AGR

Possible interpretations:

- | | |
|---|-------------------------------------|
| 'Children are beautiful.' | <i>generic</i> |
| 'The child/A child is beautiful.' | <i>definite/indefinite singular</i> |
| 'The children/Some children are beautiful.' | <i>definite/indefinite plural</i> |

Karitiana has no demonstratives or determiner quantifiers. Sentence (3) illustrates that demonstratives are expressed as clauses. And sentence (4) shows that universal quantification is also expressed as a clause in the language.

- (3) [**Ony** **sojxaty** **aka** **kyn**] Ø-naka-pon-Ø João.
 DEIC boar be at 3-DECL-shoot-NFT
 João
 'João shot at that/those boar(s).'

Literally: 'João shot at boars that were there.'

3 All the examples without references were collected by us with native speakers following a controlled elicitation methodology (see Matthewson 2004).

4 Abbreviations: 1s = 1st person singular agreement; 2s = 2nd person singular agreement; 3 = 3rd person agreement; ANAPH = anaphoric; ABS.AGR = absolutive agreement; ADJ=adjunct marker; ASST=assertive mood; COP = copula; DECL = declarative mood; DEIC=deictic; FUT = future; IMPF = imperfective; NEG = negation; NFT = non future; PART = participle; PL = plural; POS = postposition; RDP = reduplication; SUB= subordinator; TV = thematic vowel.

- (4) [**Sojxaty** **aka-tyym**] Ø-na-pon-pon-Ø João.
 boar COP-SUB 3-DECL-shoot-RDP-NFT João
 ‘João shot at all the boars.’
 Literally: ‘João shot at boars that be.’

This paper investigates the semantics of BNs in Karitiana. It claims that BNs in Karitiana denote heimian indefinites, that is, they introduce a variable into the logical form of the sentence (see HEIM, 1982). We also claim is that there are no Determiner Phrases in Karitiana, and thus that there are no empty determiners in the language.

We start the paper by briefly discussing the cross-linguistic variation on the existence and interpretation of BNs in section 1. Then, in section 2, we move on to discuss the theories that account for this variation. Next, in section 3, we present the interpretations of Karitiana BNs and, in section 4, we discuss whether covert/empty determiners should be posited in the language in order to explain the interpretations of its BNs. In section 5, we present our analysis. We conclude in section 6.

1. BARE NOUNS: CROSS-LINGUISTIC VARIATION

In this section, we take a brief look at how Bare Nouns may vary cross-linguistically.

The availability and distribution of BNs across languages has often been correlated with the presence vs. the absence of number marking, of articles, and with the obligatory use of numeral classifiers within the nominal system (see BORER 2005; CHIERCHIA 1998; GIL 1987, among others). Roughly speaking, the existence of number marking and articles in a language is claimed to correlate with the absence or with the restricted use of BNs; whereas the occurrence of obligatory numeral classifiers is claimed to correlate with the unrestricted use of BNs and with the absence of number marking. French is taken as a paradigmatic case, because it has articles, number, and BNs are never allowed. Chinese is another paradigmatic case that belongs in the other end of the scale since

it has obligatory numeral classifiers, no articles, no number, and BNs are freely allowed.

Nevertheless, there is a lot of cross-linguistic variation in between. Hindi, for instance, has no articles, but has number and also Bare Singulars and Bare Plurals. English and Spanish have articles, number and Bare Plurals, but no Bare Singulars. Another case is Hebrew, a language that has a definite article, but no indefinite article. It also has number, Bare Singulars and Bare Plurals. In Brazilian Portuguese, one finds articles, number, Bare Singulars and Bare Plurals. Finally, in Karitiana, there are no articles, no number, no classifiers, and BNs are freely allowed in all argument positions.

Possible readings for BNs also vary cross-linguistically. Ever since the seminal work of Carlson (1977), the paradigmatic reading of Bare Nominals has been taken to be the kind reading, as illustrated by the English sentence (5), and by the Chinese sentence (6). Nevertheless, it is not the case that all languages that allow Bare Nominals allow them to have kind readings. This is the case of Spanish as illustrated by the ungrammaticality of (7a) in contrast with the grammaticality of (7b) (cf. MCNALLY, 2004; LACA, 2013).

- (5) **Dogs are extinct.**
English

- (6) **Gou juezhong le.**
Chinese
dog extinct ASP
'Dogs are extinct.'
(RULLMANN & YOU 2006: 176)

- (7) a. ***Perro/Perros están extinguidos.** *Spanish*
Dog/dogs are extinct
b. **Los perros están extinguidos.** *Spanish*
the dogs are extinct
'Dogs are extinct.'

Another reading that BNs often have is the one described in terms of generic quantification occurring in characterizing statements that express generalizations about sets of entities (see Krifka *et al.* 1995).⁵ These sentences can be paraphrased as “Generally if..., then...” or “For all/typical x: if x is..., then...” as the paraphrases offered for sentence (8a-b) illustrate. The sentences in (8a-c), however, also show that not all languages allow generic readings for their BNs. English and Brazilian Portuguese are cases of languages in which BNs have generic quantificational readings, whereas Spanish is a language in which Bare Plurals are claimed not to have generic readings.

- | | | | |
|-----|----|---|--|
| (8) | a. | Dogs bark.
<u>Paraphrases:</u> | <i>English</i>
‘Generally, if something is a dog, it barks.’
‘For all/typical x: if x is a dog, then x barks.’ |
| | b. | Cachorro
dog
‘Dogs bark.’
<u>Paraphrases:</u> | late.
bark
<i>Brazilian Portuguese</i> ⁶
‘Generally, if something is a dog, it barks.’
‘For all/typical x: if x is a dog, then x barks.’ |
| | c. | *Perros ladran. ⁷
dogs | <i>Spanish</i>
bark |

The availability of existential readings also varies from language to language. By existential readings we mean readings that are existentially quantified as in (9a). They are typically paraphrased by existential constructions as illustrated by the singular indefinite in (9b). Note that these are quantificational and not referential readings since we are dealing with variable binding.

5 Krifka *et al.* (1995) distinguish kind reference from generic sentences called characterizing statements. Kinds refer to entities that are related to specimens, whereas characterizing statements that express generalizations about sets of entities.

6 Examples from Brazilian Portuguese were constructed by the authors, who are both native speakers of the language.

7 An anonymous referee brought to our attention the following lyric from a Henry Fiol song. (i) ‘Donde perro come perro. Y por un peso te matan.’ Be that as it may, the literature agrees that Bare Plurals do not allow generic readings in Spanish (see Bleam 1999).

(9) **John sold a car.**a. Logical Form: $\exists x$. [car (x) & sold (John,x)]

b. Semi-logical paraphrase: ‘There is a car and John sold it.’

Typically, BNs, when allowed, have existential readings in object positions, as in the English sentence (10a) and in the Brazilian Portuguese sentence (10b).

(10) a. **John sells cars.**

Semi-logical paraphrase: ‘There are cars and John sells them.’

b. **Maria vende carro.**

Maria sells car

‘Maria sells cars.’

English is a language that allows BNs with indefinite existential readings in subject position (see (11a)); whereas Brazilian Portuguese is not (see (11b)).⁸ BNs with definite existential readings are rare, but possible, as the Chinese sentence (11a) shows. The availability of (11a) seems to be related to the fact that there is no definite determiner in Chinese. Sentences (11b) and (11c) show the other side of the coin, e.g. that many languages do not allow definite existential BNs.

(11) a. **Dogs are barking.** *English*b. *Cachorro está latindo. *Brazilian Portuguese*
dog is barking(12) a. **Hufei he-wan-le tang.** *Chinese*Hufei drink-finish-LE⁹ soup

‘Hufei finished the soup.’ (Cheng & Sybesma 1999: 510)

8 Existential readings of Bare Singular subjects in Brazilian Portuguese are claimed to exist in some restricted contexts by Schmitt & Munn (1999) and by Pires de Oliveira & Rothstein (2012).

9 Since we kept the authors’ examples as they were given in the text, Chinese glosses differ (see the contrast between (6) and (12a).

- | | | |
|----|---|-----------------------------|
| b. | #John finished soup. | <i>English</i> |
| c. | *João terminou sopa.
João finished soup | <i>Brazilian Portuguese</i> |

In this section, we have illustrated the vast array of cross-linguistic variation in the occurrence, distribution and interpretation of BNs.

2. HOW CAN WE ACCOUNT FOR VARIATION?

In this section, we briefly present two influential theories about the cross-linguistic variation on the distribution and interpretation of BNs.

Longobardi's (1994, 2001) is a syntactic theory. It claims that arguments must always be Determiner Phrases (DPs), and that Noun Phrases necessarily denote predicates. It is extra syntactic structure or movement that may in some cases turn these predicates into arguments. The author claims that reference to individuals is tied exclusively to existence of a Determiner (D). Kind readings of (apparent) BNs result from an expletive covert/empty D, which is co-indexed with the head Noun, as represented in (13a). Existential readings of (apparent) BNs, on the other hand, stem from a covert indefinite article (an existential quantifier), as represented in (13b). Consequently, parametrization will have to do with the licensing of empty Ds. Within this theory, it is syntactic parametrization then that accounts for the variation on the occurrence and interpretation of BNs across languages.

- | | | | |
|------|----|----------------------------|-----------------------------|
| (13) | a. | $[D_{\text{expl}} [NP_i]]$ | <i>kind readings</i> |
| | b. | $[\exists i [NP_i]]$ | <i>existential readings</i> |

Chierchia's theory, on the other hand, makes cross-linguistic variation on the occurrence and interpretation of BNs depend on the denotation of the BNs themselves. According to Chierchia (1998), cross-linguistic variation on the distribution and interpretation of

BNs is to be attributed to semantic parametrization. He claims that languages vary on the syntactic level at which reference to individuals is located, which may be either the Noun or the Determiner. According to him, Nouns may be argumental by themselves, without the need of extra structure. Parametrization then will have to do with whether a language allows Nouns as arguments, and on the availability of type-shifting operations that turn argumental BNs into predicative BNs and vice-versa. These operations account for the different readings they may have in the same language.

In Chierchia's theory, the fact that a noun is marked for number (singular vs. plural) implies that its denotation has already been sorted, and is therefore predicative, not argumental. Being predicates, number-marked nouns need determiners (overt or covert) in order to become arguments. On the other hand, languages with unrestricted BNs and no number will need classifiers in order to turn argumental BNs into predicative NPs.

In this section, we have briefly sketched the two most influential theories about the distribution of BNs, one that places variation in the syntax, and the other one that places it in the semantics. These theories have been taken up by many syntacticians and semanticians in order to solve the problems they raise when dealing with the description of specific languages. Unfortunately, we won't be able to pursue these developments here. In the next section, we will describe how BNs are interpreted in Karitiana.

3. INTERPRETATIONS OF KARITIANA BNS

In this section, we show that Kartiana BNs may be interpreted as existentially definite, existentially indefinite and as generic in all argument positions.

As mentioned in the introduction, Karitiana NPs occur bare in all argument positions. They are not marked for (in)definiteness, number, class, gender, proximity, specificity, or case. There are no universal or existential determiners or demonstrative pronouns in the language (see MÜLLER *et al.* 2006).

We first examine Karitiana NPs in object position. Note that the short text in (14) is made of a sequence of sentences, in which

the second occurrence of *livro* ('book') is anaphoric to its first occurrence in the previous sentence – that is, the second occurrence of *livro* is a paradigmatic case of the occurrence of a definite NP.

- (14) a. Koot y-ta-'amy-t yn mynhin-t **livro**-ty.¹⁰
 yesterday 1s-DECL-buy-NFT I one-ADJ book-POS
 'Yesterday I bought **one book**.'
- b. Yn Ø-na-tarak-a-t **livro** ambip.
 I 3-DECL-bring-VT-NFT book house
 'I brought **the book** home.'

Note next that the object BN *sojxa* ('boar') of sentence (15) is interpreted as an indefinite. This is so because the sentence was uttered in the context of asking whether someone (Inácio) came about any boars while hunting.

- (15) I-so'oo-t Inácio **sojxa**-ty?
 3-see-NFT Inácio boar-POS
 'Has Inácio seen boars?'

Note as well that the object BN in (16) is interpreted either as a generic or as a kind-denoting NP. As stated before, there is a difference between generically quantified and kind-denoting NPs. Nevertheless it is impossible to tell them apart in Karitiana as far as our present knowledge of the language goes.

- (16) Maria Ø-na-aka-t i-pasa-t **gok**-ty.
 Maria 3-DECL-COP-NFT PART-like-ABS.AGR manioc-POS
 'Maria likes manioc.'

Let us now turn to BNs in subject positions. Examples (17) to (20) show that subject BNs in Karitiana may be interpreted as definite, indefinite and as generically quantified or kind-denoting.

10 In Karitiana some objects are marked by the suffix {-ty}. Storto 1999 analyzes it as an oblique mark. Due to the fact that the language lacks typical case morphemes such as ergative or absolutive we prefer to gloss this morpheme as a postposition (despite the fact that adpositions are usually independent words).

In sentence (17), the speaker is talking about his two dogs that are visible to the hearer. This is therefore a clearly definite context. Sentence (18), on the other hand, was uttered in a context in which the speaker is listening to an indefinite number of jaguars roaring in the jungle. We therefore have an indefinite interpretation of a subject BN.

- (17) **Ombakyby’edna** Juli Gigante Ø-na-aka-t dog
 Juli Gigante 3-DECL-COP-NFT

 honghong i-a-tyka-t.
 arf.arf PART-make-IMPF-ABS.AGR

‘The dogs – Juli and Gigante – are barking.’

- (18) Ø-pyry-hyryp-yn tysyp-yn **ombaky**.¹¹
 3-ASST-cry-NFT IMPF-NFT jaguar
 ‘Jaguars are roaring.’

Finally, sentences (19) and (20) show examples of subject BNs in generically quantified (19) and in typically kind-denoting (20) contexts. Sentence (19) is a sentence about women in general, whereas sentence (20) may be understood as a sentence about the jaguar-kind.

- (19) **Jonso** Ø-na-aka-t i-sondy-t.
 woman 3-DECL-COP-NFT PART-know-ABS.AGR

 kinda.haraj-ty.
 thing.good-POS
 ‘Women know about the good things.’

 (20) Ø-pyry-pyyk-yn **ombaky**.
 3-ASST-be.over-NFT jaguar
 ‘Jaguars are extinct.’/ ‘Jaguars are over.’

11 *Tyka* and *tysyp* are bi-morphemic imperfective markers that have a common morpheme {*ty-*}. We do not gloss each of the morphemes separately for the sake of clarity, since this does not bear to the main topic of this paper. See Carvalho (2009) for an analysis of imperfective markers in Karitiana.

Summing up the section, we conclude that Karitiana Bare Nouns may be interpreted as definite, indefinite and kind-denoting or generically quantified in all argument positions. Karitiana BNs then present the whole array of possible readings attributed to BNs across languages. This is accordance with the fact that there are neither definite/indefinite determiners nor universal quantifiers in the language. Cross-linguistic studies have shown that there is an important relationship between the absence of determiners and the interpretive possibilities for bare NPs (see DAYAL, 2011 for further discussion).

4. COVERT DETERMINERS IN KARITIANA?

In this section, we present further evidence that supports the claim that BNs in Karitiana are unmarked for the definite vs. indefinite distinction and that they do not mark generic/kind interpretations as well. Furthermore, we argue that, since the interpretations as definite, indefinite, and generic are equally available in most contexts, a three-way ambiguous determiner or a three-way ambiguous type-shifter should not be posited, and that BNs in Karitiana should be analyzed as real BNs, in the sense that their NPs have no covert determiners whatsoever (see MÜLLER & BERTUCCI, 2012).

According to Heim (1982), indefinites introduce novel entities into the common ground of discourse; they do not entail (or presuppose) familiarity. Definites, on the other hand, entail (or presuppose) uniqueness (or familiarity). They do not introduce novel entities into the common ground of discourse. In what follows, we will show that BNs in Karitiana are not sensitive to the semantic/discourse context in which they occur.

Our first evidence that nothing like a definite vs indefinite distinction within Karitiana NPs exists lies on the occurrence of pairs of identical co-referential BNs. In the short piece of discourse in (21a-b), the same BN is used both as novel and as familiar to the common ground of discourse. The first occurrence of the nouns *professor* ('teacher') and *enfermera* ('nurse') in (21a) is typically

indefinite, since it is their first occurrence in the discourse and their referents were not somehow presupposed in the given context. We know that because the speaker was prompted a context about receiving an unexpected visit. Therefore, it is not the case that *professor* ('teacher') and *enfermera* ('nurse') necessarily denote a unique referent in the context. The second occurrence of *professor* in (21b) and the second occurrence of *enfermera* in (21c) are anaphoric to their occurrences in (21a) – they are, therefore, typically definite.

- (21) a. **Professor** **enfermera** Ø-na-aka-t
 teacher nurse Ø-DECL-COP-NFT
- koot i-ambyk-t y-ambip.
 yesterday PART-come-ABS.AGR 1-house
- ‘A teacher and a nurse came to my house yesterday.’
- b. **Professor** Ø-na-aka-t i-le-t
 teacher 3-DECL-COP-NFT PART-read-ABS.AGR
- livro-ty y-’iti hot
 book-POS 1-daughter to
- ‘The teacher read a book to my daughter.’
- c. **Enfermera** Ø-na-aka-t i-so’kyn-Ø
 nurse 3-DECL-COP-NFT PART-take.care-ABS.AGR
- y-’tiita.
 1-mother
- ‘The nurse took care of my mother.’

Literally: ‘**Teacher** and **nurse** came to house of mine yesterday. **Teacher** read **book** to my daughter. **Nurse** took care of my mother.’

The second piece of evidence lies on the fact that BNs in Karitiana are used both in situations in which the referent is unique; and in situations in which the referent is not necessarily unique. In sentence (22), the reference of the noun *geladera* ('refrigerator') is non-unique, since, after the recent coming of electricity to the village, there is more than one refrigerator in the village.

- (22) Ø-pyry-kii-n **geladera** akan pip.
 3-ASST-COP.PL-NFT frige village POS
 'There are refrigerators in the village.'

The first occurrence of the noun *ombaky* ('jaguar') in sentences (23a-b) introduces a new entity into the common ground of the discourse, and is, therefore, indefinite (23a). Its second occurrence in (23b) is anaphoric to the first one, and refers back to the unique jaguar in the context. It is, therefore, definite.

- (23) a. yn i-so'oo-t **ombaky**-ty.
 I PART-see-ABS.AGR jaguar-POS
 'I saw a jaguar.'
- b. yn i-so'oo-t sojxa-ty **ombaky** i-'y.
 I PART-see-ABS.AGR boar-POS jaguar 3-eat
 'I saw that the jaguar was eating a boar.'
- c. y-pon tykiri Ø-naka-pyky-t **i**.
 1-shoot when 3-DECL-run.away-NFT it
 'It ran away when I fired.'

Another property of definites is that they force anaphoric readings, whereas indefinites force disjoint readings, as illustrated by the English sentences (24a-b). In this sense, since the BN in (23b) is interpreted anaphorically, it is definite.

- (24) a. The teacher_i came in and the teacher_i sat down.
 b. A teacher_i came in and a teacher_{*,i} sat down.

The third piece of evidence for the unmarkedness of BNs in Karitiana presented in this section is that both anaphoric and disjoint readings are available for Karitiana BNs. The discourse sequence in (23) is a case in which the pronoun in (23c) is anaphoric to the second BN in (23b). This shows that this BN is being interpreted as definite. The piece of discourse in (25a-b), on the other hand, is to be understood as asserting the existence of (at least) two tapirs. It is, therefore, a case of disjoint reference, and, consequently, a case of indefinite interpretations.

- (25) a. Ø-pyry-'a tyka-n **irip** akan.
 3-ASST-have IMPF-NFT tapir village
 'There is a tapir in the village.'
- b. Ø-pyry- 'a tyka-n **irip** akan gooto pip tyym.
 3-ASST-have IMPF-NFT tapir village new in
 too
 'There is a tapir in the new village too.'

Note however, that the fact that BNs are unmarked for definiteness or indefiniteness does not prevent some grammatical and/or pragmatic contexts to force either a definite or an indefinite reading. Existential sentences, such as the *have*-constructions in (25a-b), illustrate that fact. It is a well-known property of existential-sentences that they are only grammatical with indefinite NPs (see MILSARK, 1977, on definiteness restriction). The fact that a BN is interpreted as an indefinite due to a *have*-construction like in (25) proves that BNs can be interpreted as indefinites, which is the point we want to make with the example. What we may conclude, based on the grammatical distribution presented above, is that one cannot easily argue for a covert ambiguous definite/indefinite Determiner of BNs in Karitiana.

Let us now move on and investigate whether one could tell apart generic or kind readings from existential - definite or indefinite – readings. Sentence (26), in the non-future tense, and unmarked for aspect, can have both an existential and a universal (generic) interpretation, whereas sentence (27), in the non-future

tense and imperfective aspect, can only have an episodic reading (with an existential interpretation of the BN).¹² So, aspect may favor one or the other reading, but there is nothing in the morphosyntax of the BN that can do that.

- (26) **ombaky** na-aka-t i-pykyn<a>-t.
 jaguar DECL-cop-NFT PART-run-ABS.AGR
 ‘Jaguars run.’ *generic*
 ‘The jaguar/A jaguar/jaguars ran.’ *episodic*
- (27) **ombaky** i-pykyna-t tyka-t. jaguar PART-run-ABS.AGR
 IMPF-NFT
 ‘The jaguar/a jaguar/jaguars is/are running/have been running.’ *episodic*

We may now tackle the question of whether BNs in Karitiana should be analyzed as full DPs with ambiguous empty determiners. According to Longobardi’s theory, variation lies in D(eterminer). When confronted with the data presented above, his theory raises two problems. The first one has to do with the need of positing a three-way ambiguous determiner. It forces us to posit a three-way ambiguous Determiner in order to generate definite, indefinite and kind/generic readings. The second problem has to do with the fact that the existence of this three-way ambiguous determiner cannot be tested since the three readings are almost always available for BNs in Karitiana.

If one adopts Chierchia’s theory, BNs in Karitiana should be claimed to denote kinds and be argumental from the start. This is so because BNs can occur unrestrictedly as arguments. But Chierchia’s theory also poses problems. The first one is related to the need of positing three distinct type-shifters that would shift kinds into indefinites, into definites and into predicates. As with Longobardi, these type-shifters should be available in almost all contexts, without any blocking principles at work. The other problem has to do with the fact that the existence of these three distinct type-shifters is also impossible to be tested since the three readings are almost always available.

12 Karitiana has two tenses: future and non-future. Both are unmarked for perfective vs. imperfective aspect.

In this section, we have argued, on the basis of the availability of definite, indefinite and generic interpretations for Karitina BNs, that an explanation based on the ambiguity of an empty D or on the existence of an ambiguous type-shifter is not satisfactory.

5. ANALYSIS

In this section, we will argue for the thesis that BNs in Karitiana are predicates in the sense of Heim (1982). In this sense, BNs introduce a variable into the logical form of the sentence and this variable either gets bound by sentential quantifiers, in the case of indefinite and generic interpretations (see KRIFKA *et al.*, 1995) or is deictically determined in the case of definite interpretations. More specifically, what we are claiming is that a sentence like (26) repeated below as (28) has the logical interpretations as paraphrased in (28a-c).

- (28) **ombaky** na-aka-t i-pykyna-t.¹³ = (26)
 jaguar DECL-cop-NFT PART-run-ABS.AGR

a. ‘Generically, if something is a jaguar, it runs.’

Generic: ‘Jaguars run’

b. ‘There are one or more entities such that they are jaguars and they ran.’

Existential-indefinite: ‘A/some jaguars ran’.

c. ‘The unique contextually salient jaguar(s) ran.’

Existential-definite: ‘The jaguar(s) ran.’

This analysis entails that a sentence like (28) *Ombaky na-akat ipykynat* has a kernel meaning that may be described as *x is jaguar(s) and x run(s)/ran*. It is tense, aspect and contextual information that will tell how the value of the variable *x* will be determined; if by a generic or an existential quantifier or by deixis.¹⁴

¹³ We are abstracting away from details about tense in Karitiana in order to keep things simple.

¹⁴ We acknowledge that this is vague, and needs to be worked out both syntactically and semantically. Nevertheless our main point in the paper is to argue that DPs/NPs in Karitiana are unmarked for number and that whatever their interpretation is in specific contexts is not to be attributed to the DP/NP itself.

This thesis leads to three predictions. The first one is that Karitiana Bare Nouns should be able to occur in both definite and indefinite contexts without any restrictions. Second, they should be able to occur with both existential and universal (generic) interpretations without any restrictions as well. Finally, they should not behave like kind-denoting NPs. This is predicted because kind-denoting NPs are like proper-names and do not introduce variables into the logical form of a sentence. In section 4, we have shown that the first and the second predictions uphold. We now turn to the third prediction.

The first evidence for the non-kind behavior of Bare Nouns in Karitiana is that they have both narrow and wide scope readings. Kind-denoting NPs such as the Bare Plurals in English can only have narrow scope as shown in (29) (see CARLSON, 1977, for details). The available translations to the equivalent sentence in Karitiana in (30) show that the noun *enfermera* ('nurse') may take both narrow and wide scope with respect to the main clause.

- (29) **Luiz will be happy if nurses come (to the village).**
 ✓ 'Luiz will be happy if any nurse comes...'
 ✗ 'Luiz will be happy if a certain nurse/certain nurses come(s).'

- (30) **Enfermera** otam tykiri Ø-na-osedna-j Luiz.
 nurse arrive when 3-DECL-be.happy-FUT Luiz
 ✓ 'Luiz will be happy if any nurse comes.'
 ✓ 'Luiz will be happy if (a) certain nurse(s) come(s).'

Extra evidence in favor of their non-kind behavior is that narrow scope is possible, but not obligatory as it is in English. In Karitiana there are sentences that have only narrow scope reading of the BN as in English, but it is not mandatory. Sentence (31) in its favored reading is understood as describing an event of some buses being burnt in Rio and some other buses being burnt in São Paulo, that is, with *onibus* ('bus') having narrowest scope with respect to the adverbial phrase.¹⁵ Sentence (32), on the other hand, is equally

¹⁵ The interpretation with wide-scope for *onibus* in (31) does not make sense, thus the ✗ sign.

fine with both the narrow scope reading and with the wide scope reading, in which the same buses run in the two cities given an appropriate context such as having the same buses running back and forth inside and between the two cities. Compare the meaning of these sentences to their English translations in (33) and (34), in which the buses can never be the same ones, that is, ‘buses’ can never take wide scope with respect to the adverbial phrase ‘in São Paulo and in Rio de Janeiro’.

- (31) **onibus** Ø-na-aka-t i-ampip-o-t. bus
3-DECL-COP-NFT PART-burn-VT-ABS.AGR

São Paulo Rio de Janeiro pip.

São Paulo Rio de Janeiro in

Narrow scope: ✓ ‘Buses were burnt in São Paulo and in Rio de Janeiro.’

Wide scope: ✗ ‘The same buses were burnt in São Paulo and in Rio de Janeiro.’

- (32) **onibus** Ø-na-aka-t i-pykyna-t bus
3-DECL-COP-NFT PART-run-ABS.AGR

São Paulo Rio de Janeiro pip.

São Paulo Rio de Janeiro in

Narrow scope: ✓ ‘Buses ran in São Paulo and in Rio de Janeiro.’

Wide scope: ✓ ‘The (same) buses ran in São Paulo and in Rio de Janeiro’

- (33) **Buses were burnt in São Paulo and in Rio de Janeiro.**

- (34) **Buses ran in São Paulo and in Rio de Janeiro.**

Moreover, contrary to what is the case for English, a generic interpretation is not necessarily favored or disfavored by the use of the BN in sentences that could be interpreted either generically or episodically, as is the case with sentence (35). Note that the

English version of (35) in (36a) strongly favors a generic reading. This is proven by the fact that an indefinite cannot appear in the same position, as illustrated in (36b) (see DAYAL, 2009).¹⁶

- (35) **him.bi** **Ø-na-aka-t** **i-akyno-t** meat.place
 3-DECL-COP-NFT PART-close-ABS.AGR

domingo **pip.**
 Sunday on

Generic: ✓ ‘BBQ places close on Sundays.’

Episodic: ✓ ‘Some BBQ places close on Sundays.’

- (36) a. **Restaurants close on Sundays.**
 b. **# A Restaurant closes on Sundays.**

Since Karitiana BNs occur in both definite and indefinite contexts, and have both existential and universal readings and do not behave like kind-denoting terms; their quantified readings (existential or generic) must come from the sentence (e.g. aspect or adverbials). This supports their analysis in terms of Heimiam indefinites that introduce a variable that gets bound by a covert quantifier or has its reference set deictically by the context.

We won’t pursue the task of giving a detailed syntactic and/or semantic account of how each of the available interpretations is generated. We also leave open the question of where the Heimiam variable could be projected in the syntax. This question was exploited for example by some works that assume that the variable can be realized as a (phonologically) empty Determiner (see BENEDICTO, 1998 for instance). We leave these questions for future work.

¹⁶ A referee points out that the two readings of sentence (35a) can be set apart by intonational patterns. Diesing 1992 claims that this is probably so, but that the judgements are not clear cut and that with neutral focus any reading can arise.

6. CONCLUSIONS

In this paper, we have shown that Karitiana BNs are unmarked for the definite *vs* indefinite distinction. Based on these results, we have claimed that the most economic theory that accounts for their behavior is theory of indefinites proposed by Heim (1982). Bare Nouns in Karitiana are thus claimed to be indefinites that introduce a variable into the logical form of the sentence.

REFERENCES

- BENEDICTO, E. La interpretación de los nombres plurales sin determinante. In: A. ACOSTA, A.; ESTRADA, Z.; FIGUEROA, M. & LÓPEZ, G (eds.). IV Encuentro Internacional de Lingüística en el Noroeste, Vol II, 83-114. Hermosillo (Sonora), Mexico: Editorial UniSon, 1998.
- BLEAM, T. Object Bare Plurals in Spanish in the Semantics of Personal a. In: J.-M. AUTHIER, J. -M.; BULLOCK, B.; REED, L. (eds.) *Formal Perspectives on Romance Linguistics: Selected papers from the 28th Linguistic Symposium on Romance Languages (LSRL XXVIII)*. John Benjamins, 1999.
- BORER, H. *Structuring Sense*. Oxford: Oxford University Press, 2005.
- CARLSON, G. *Reference to Kinds in English*. PhD Dissertation, University of Massachusetts, Amherst, 1977.
- CARVALHO, A. M. O Auxiliar Aspectual Tyka do Karitiana. *Revista Letras* 78: 147-163, 2009.
- CHENG, L. L.-S.; SYBESMA, R. Bare and not-so-bare nouns and the structure of NP. *Linguistic Inquiry* 30: 509-542, 1999.
- CHIERCHIA, G. Reference to Kinds across Languages. *Natural Language Semantics* 6: 339-405, 1998.
- DAYAL, V. Bare Noun Phrases In: MAEINBORN, C.; VON HEUSINGER, K.; PORTNER, P. (eds.). *Semantics: An International Handbook of Natural Language Meaning*. Berlin: de Gruyter, 2011, pp. 1087-1108.
- DIESING, M. *Indefinites*. Cambridge: MIT Press, 1992.
- GIL, D. Definiteness, Noun-Phrase Configurability, and the Count-Mass Distinction. In: REULAND, E. J.; TER MEULEN, A. G. B. (eds.). *The Representation of (In)definiteness*, 254-269. Cambridge: MIT Press, 1987.
- HEIM, I. *The Semantics of Definite and Indefinite Noun Phrases*. PhD Dissertation, University of Massachusetts, 1982.

- KRIFKA, M.; PELLETIER, F. J.; CARLSON, G.; TER MEULEN, A.; CHIERCHIA, G.; LINK, G. Genericity: an Introduction. In: CARLSON, G.; PELLETIER, F. J. (eds.). *The Generic Book*. Chicago and London: University of Chicago Press, 1995, pp. 1-124.
- LACA, B. Spanish Bare Plurals and Topicalization. In: KABATEK, J.; WALL, A. *New Perspectives on Bare Noun Phrases in Romance and Beyond*. John Benjamins, 2013, 95-120.
- LONGOBARDI, G. Reference to Kinds and Proper Names: a Theory of N movement in Syntax and Logical Form. *Linguistic Inquiry* 25 (4): 609-665, 1994.
- LONGOBARDI, G. How Comparative is Semantics? A Unified Parametric Theory of Bare Nouns and Proper Names. *Natural Language Semantics* 9: 335-369, 2001.
- MATTHEWSON, L. *Determiner Systems and Quantificational Strategies Evidence from Salish*. PhD dissertation, University of British Columbia, 1996.
- MATTHEWSON, L. On the Interpretation of Wide-Scope Indefinites. *Natural Language Semantics* 7: 79-134, 1999.
- MATTHEWSON, L. On the Methodology of Semantic Fieldwork. *International Journal of American Linguistics* 70: 369-415, 2004.
- MCNALLY, L. Bare plurals in Spanish are interpreted as properties. *Catalan Journal of Linguistics* 3: 115-133, 2004.
- MÜLLER, A.; BERTUCCI, R. Sintagmas Nominais Nus Expressam a Distinção Definido vs. Indefinido?: o caso do Karitiana. In: PIRES DE OLIVEIRA, R.; MEZZARI, M. P. (orgs.) *Nominais Nus: um olhar através das línguas*. Campinas, SP: Mercado de Letras, 2012, pp. 149-184.
- MÜLLER, A., STORTO, L.; COUTINHO-SILVA, T. Número e a distinção contável-massivo em Karitiana. *Revista da ABRALIN* 5: 185-213, 2006.
- PIRES DE OLIVEIRA, R.; ROTHSTEIN, S. Bare singulars are mass in Brazilian Portuguese. *Lingua* 121: 2153-2175, 2011.
- RULLMANN, H.; YOU, A. General number and the semantics and pragmatics of indefinite bare nouns in Mandarin Chinese. In: HEUSINGER, K. V.; TURNER, K. (eds.). *Where Semantics Meets Pragmatics*. Amsterdam: Elsevier, 2006, pp. 175-196.
- SCHMITT, C.; MUNN, A. Against the Nominal Mapping Parameter: Bare Nouns in Brazilian Portuguese. *NELS* 29: 339-353, 1999.
- STORTO, L. *Aspects of a Karitiana Grammar*. PhD Dissertation, MIT, 1999.