



On the Encoding of the Definite/Indefinite Distinction in Karitiana

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Abstract. This article discusses the role of noun phrases in Karitiana, especially in terms of the possibility that these phrases may express definiteness and indefiniteness in the language. As they are nominals without any overt functional morphemes, our claim is that they do not encode definiteness or indefiniteness in the language. Our claim is that the NPs in Karitiana only have the function of introducing a predicate and a variable in the logical form of a sentence, and that readings related to definiteness and indefiniteness are provided by the morphosyntactic or context in which the nominal phrase is used.

1 Introduction

This paper contributes to the description and analysis of the encoding of definiteness and indefiniteness in natural languages in general, by discussing the specific role of noun phrases (NPs) in Karitiana, especially the possibility that they may not express the definiteness and indefiniteness distinction. Cross-linguistically, there are languages such as the Romance and Germanic languages in which the determiners encode definiteness (e.g. *the boy*), or indefiniteness (e.g. *a boy*). However, there are other languages in which the determiners do not fulfill this role, such as some languages of the Salish family (see Matthewson 1996). There are also languages such as the creole of Guiné-Bissau and Karitiana in which there are no definite or indefinite articles.

Matthewson (1996) discusses whether the distinction between definiteness and indefiniteness is necessarily expressed by the grammar of a language or whether this distinction may be outside the grammar in some languages. This paper contributes to this discussion in the sense that it assumes the impossibility of distinguishing between definiteness and indefiniteness in Karitiana solely by means of its grammar. The paper tries to answer the following question: do the NPs in Karitiana express definiteness

and indefiniteness as they do in determiner languages such as English or Portuguese?

In Karitiana the NPs are always bare, which means that the functional morphemes, which are responsible for marking functions such as gender, case, definiteness, indefiniteness, and number are not present. The article claims that the NPs in Karitiana: (i) do not encode definiteness or indefiniteness; (ii) they only introduce a predicate and a variable in the logical form of a sentence. Karitiana belongs to the Tupí stock. It is spoken by approximately 400 people who live on a reserve northwest of Brazilian Amazonian region. It is a head final language, but the matrix sentences, in declarative mood, generally occur with the verb in second position (SVO, OVS), whilst in embedded sentences the verb always appears in final position (see Sorto 1999, 2003). In addition, Karitiana basically identifies two tenses: future and non-future. Agreement, mood and tense are marked only in the root sentences, as we can see in (1) below:¹

- (1) [taso ðwã mangat-a-ty] y-ta-pyting-∅ yn.
man child lift<VT>OBL 1P-DECL-want-NFT I²
 'I want the men to lift up the children.'³

Furthermore, as Storto (1999) has observed, Karitiana possesses an ergative-absolutive pattern of agreement, which means that the verb agrees with the subject in intransitive sentences, as shown in the example in (2), and agrees with the object in transitive sentences, as shown in the example in (3).

- (2) A-ta-opiso-t na. (Storto 1999)
 2P-DECL-listened-NFT you
 'You listened.' (intransitive)⁴
- (3) An y-ta-oky-t yn.

¹ The order for the presentation of the data is as following: on the first line, the morphological segmentation of each word; on the second line, the meaning of each segment; on the last line, the translation into English. The data presented were collected by Ana Müller through field work, except where they are explicitly attributed to another researcher.

² Abbreviations used: ASS=assertive; ∅=null morpheme; 1P=first person; 2P=second person; 3P=third person; CAUS=causative; CONC=agreement; COP=copula; DECL=declarative; DET=determiner; IMP= imperfect; FUT= future; NFT=non-future; OBL= oblique; PART= participle; PASS=passive; POS=post-position; REDPL=reduplicative; SUB=subordinate; VT= thematic vowel.

³ The translations given are those provided by the speaker or by the researcher in the particular context. It should be remembered that each sentence could have other interpretations.

⁴ Non-future time (NFT) is equivalent to both past and present time. However, in most cases this time has been translated as past, since this was the form used in the context of the collection of the data.

2P 1P- DECL-*hurt*-NFT I
 ‘You hurt me.’ (transitive)

In order to achieve our aim of verifying whether the NPs in Karitiana encode definiteness, Section 2 looks at the semantics of determiners in natural languages, especially with regard to the definiteness and indefiniteness which they may express. Section 3 describes the characteristics of the NPs in Karitiana. Section 4 deals with whether the NPs in Karitiana encode (in)definiteness. Finally, Section 5 analyses the data from Karitiana, and claims that the NPs in this language do not encode definiteness and indefiniteness, nor do they have the properties which would result from such encoding. We maintain, however, that the role of the NPs in Karitiana is only to introduce a predicate with its variable in the logical form of a sentence.

2 Definiteness and Indefiniteness: the Role of Determiners

Human languages have a group of expressions referred to as *determiners* which contribute to the meaning of an NP, and, of course, of the sentence as a whole. These expressions are responsible for a range of distinctions in languages, such as *definiteness*, *gender*, *number* and *case*, *inter alia*. In Romance and Germanic languages, for example, the articles can express a range of distinctions and, because of this, it has become the convention to separate them in accordance with this range. In Portuguese, for example, determiners can be definite (*o, a, os, as*) or indefinite (*um, uma, uns, umas*); they can possess masculine gender (*o, os, um, uns*) or feminine gender (*a, as, uma, umas*); they can express singular number (*o, a, um, uma*) or plural number (*os, as, uns, umas*). However, these distinctions are not expressed in the same way in all languages. As this article focuses on definiteness and indefiniteness, we shall begin by reviewing briefly what definiteness and indefiniteness express.

We assume that one of the main difference between definite and indefinite phrases is the fact that the former indicate something familiar which is already present in the universe of discourse, whilst the latter indicate something which is novel in the discourse (see Heim 1982).⁵ Thus definiteness is a mark of the familiarity of an entity, and indefiniteness is a mark of the non-familiarity (novelty) of an entity in the discourse. This situation is common in narratives such as children’s stories. Sentence (4) illustrates the expression of the novel/non-novel distinction by articles.

⁵ In this article, *discourse*, *universe of discourse*, and *situation*, are used in a general sense as synonyms for *context*.

- (4) A king had **a beautiful daughter**. **The daughter** dreamed of becoming a professor.

The reason why (4) is the only adequate sequence stems from the new/familiar relationship which is indicated by the phrases ‘a beautiful daughter’ and ‘the daughter’. Indefinite NPs introduce a new entity into the context and, once this entity has been introduced, it can be referred to again by means of expressions which indicate familiarity.

Uniqueness is another property of definites which has been widely discussed in the literature on the subject (see Russell 1905, Heim 1991, *inter alia*). Definite determiners express uniqueness, i.e. a definite NP states that there is only one entity of the type denoted by the noun. When we read sentence (5) below, for example, we understand that the speaker is referring to a single article which is ready. If there are two or more articles or none, then sentence (5) is not interpretable.

- (5) **The article** is ready.

In the same way, a definite plural NP denotes a single entity composed of the total sum of the relevant entities in the universe of the discourse, as in (6) below:

- (6) **The articles** are ready.

In this case, the definite plural NP expresses that there is a single group of articles which is ready. Indefinite NPs, however, do not presuppose uniqueness. The difference between definite and indefinite NPs can be seen in negative sentences such as (7). While sentence (7a) presupposes that only one single article on semantics was to have been written by João, sentence (7b) does not raise this type of presupposition.

- (7) a. João did not write **the article on semantics**.
b. João did not write an article on semantics.

Finally, another property which definite NPs possess is that of anaphoricity: these phrases cause an anaphoric interpretation in relation to an antecedent NP with the same type of denotation. This means that, when two NPs have equivalent meanings, if the second of these is definite, it refers back to the same individual introduced by the first NP, as in (8) below:

- (8) a. João ate **the pizza**, and Pedro ate **the pizza**, too.
b. **A dog** came in. **The dog** lay down on the floor.

The indefinite NPs, however, impose a disjoint interpretation in relation to an antecedent NP with the same denotation, i.e. if there are two equivalent NPs, and the second of these is an indefinite NP, it will not refer to the same entity introduced in the first NP, as in (9) below:

(9) João ate *a pizza* and Pedro ate *a pizza*, too.

Following the work of Kamp (1981) and Heim (1982), it has become customary to assume that indefinite NPs are variables. A “variable” is an expression whose value can vary in terms of reference. In Section 5 below, we will see that, as the NPs in Karitiana can be interpreted both in terms of existential quantification as in terms of universal quantification, as is the case with the indefinite NP in English.

So far we have seen that definiteness and indefiniteness possess a number of properties, such as the novel/familiar distinction, uniqueness, and the possibility (or impossibility) of anaphoric reference. Some languages do have expressions which can be classified as “determiners”, but the NPs which contain these determiners do not denote some of the properties we have described above. This is the case with the languages of the Salish family. Matthewson (1996) shows that the Sechelt language, for example, possesses a determiner *lhe* which does not distinguish between the novel and the familiar.

Let us now return to our target language, Karitiana. If a language such as Sechelt possesses a determiner which does not distinguish definiteness from indefiniteness, what should we expect from a language like Karitiana which has no determiners at all in the structure of the NP? It seems sensible to expect that languages may vary in whether or not they express definiteness and indefiniteness. It is possible that definiteness and indefiniteness will not be encountered in the structure of the NPs in Karitiana. This hypothesis will be considered below.

In this section we have shown that definite and indefinite phrases have three important properties: the distinction between the novel and the familiar, uniqueness and non-uniqueness, anaphoricity and non-anaphoricity. In the next section we will present the characteristics of the NPs in Karitiana, and then investigate whether they encode definiteness or not.

3 Noun Phrases in Karitiana

Some of the functional morphemes which mark gender, number, determination, quantification, voice, aspect and time, *inter alia*, are absent in certain languages. In Karitiana, for example, the structural position of the

determiner is never overtly filled. In Karitiana, the NP is always bare without any determiners such as *the*, *a* or *every*, which are present in other languages. In Karitiana, the form is always the same and invariable (cf Müller et al, 2006). The data in (10) give evidence concerning the morphology of (in) definiteness, and of the the marking of case.

- (10) **Taso** Ø-naka-ʔy-t **boroja**
man 3P-DECL-*eat*-NFT *snake*
 ‘(The/A/some) man/men ate (the/a/some) snake(s).’
 ‘The/A man ate (a/the/some snake(s)).’
Literally: ‘man ate/eats snake’

In (10), the NPs *taso* ‘man’ and *boroja* ‘snake’ do not possess any morphology of case, nor do they have determiners which are realised phonetically. The sentence can be used in different situations, as is shown in the translation (‘The/A man ate (the/a snake (s))’). The data in (11) below show that NPs in Karitiana are not marked for number, nor do they have numeral classifiers. The adverbial adjunct *sypomp* (‘two’, ‘twice’) is responsible for attributing the number of individuals who take part in the event and/or the number of events. Thus the sentence can indicate that the speaker ate two monkeys, or that he ate monkey twice.⁶

- (11) yn Ø-naka-ʔy-t **sypom-p pikom.**
I 3P-DECL-*est*-NFT *two*-OBL *monkey*
 ‘I ate two monkeys.’ or ‘I ate monkey twice.’

The universal quantifier is also absent from the structure of the NPs in Karitiana. Universal quantification is expressed by a relative sentence (see (12)). In the sentence in (12) above, the insertion of the relative utterance *taso akatyyim* ‘men who are (there)’ makes the interpretation of universal quantification in the sentence obligatory. Demonstrative roles are also played by relative clauses in Karitiana as illustrated by (13) below.

- (12) **Taso aka-tyym** Ø-na-pon-pon-Ø **pikom.**
man cop-sub 3P-DECL-*shoot*-REDPL-NFT *monkey*
 ‘All the men shot at monkeys.’
Literally: ‘Men who be there shot at monkeys.’

- (13) **Dibm** Ø-naka-tat-i **ony taso aka.**
tomorrow 3P-DECL-*leave*-FUT *there man* COP
 ‘Those men will leave tomorrow.’

⁶ Numerals are adjuncts in the language (see Müller et al 2006).

Literally: ‘Men who be there will leave tomorrow’.

In all the cases described so far, it is clear that NPs in Karitiana are bare, i.e. they do not possess functional morphemes, and this brings into question whether they encode definiteness and indefiniteness. If we take up Matthewson’s (1996:19) suggestion concerning the languages of the Salish family, we may ask whether Karitiana has other devices in its grammar (except context or discourse) to express definiteness and indefiniteness, or should we simply say that the distinction between definite and indefinite does not exist in the language? The following section discusses the properties of definiteness in Karitiana, with the purpose of verifying whether they can be expressed by these phrases or not.

4 Do Noun Phrases in Karitiana Express (In)Definiteness?

Before dealing directly with the behaviour of NPs in Karitiana, let us begin this section by recapitulating some of the properties of definite and indefinite NPs. In previous sections we have seen that:

- (14) **Definite NPs**: do not introduce a new entity into the universe of discourse; presuppose the uniqueness of or familiarity of the entity they denote; make obligatory an anaphoric reference in the discourse to a previously-mentioned NP which has the same type of denotation.
- (15) **Indefinite NPs**: introduce a new entity into the discourse; do not presuppose uniqueness or familiarity in relation to the entity they denote; are not anaphorically linked in the discourse to a previously-mentioned NP which has the same type of denotation.

In order to facilitate our analysis, this section will be divided into three sub-sections. In the first of these we will discuss the question of the expression of definiteness through the use of NPs in Karitiana; in the second sub-section we will talk about the presupposition of uniqueness in these phrases; in the third sub-section we will deal with the issue of anaphoric and disjoint references in the language.

4.1 (In)Definiteness in Karitiana

Our thesis is that the NPs in Karitiana do not distinguish between definiteness and indefiniteness. In (16) below, we analyse the case of *ḍwā* (‘child’). Once again, we will call attention to the absence of functional morphemes in the NPs, which is typical in Karitiana.

- (16) a. Yn DECL-sadna-FUT *ōwā hadna hyk*
I DECL-tell-FUT child story about
 ‘I am going to tell the story of a child.’
- b. Py-py-n-a *ādyk-y-n* *ōwā*
ass-know<VT> IMPF.PASS<VT>NFT child
 ‘The child was intelligent.’

As indicated in (14) above, we expect that a definite NP will be used in situations like that in (16a), since it is a typical case of the introduction of a novel referent in the background of the conversation. On the other hand, (16b) would require a definite NP because it relates to the sequence of the story, and the referent is already familiar in the universe of the discourse. However, as shown in the data given above, in Karitiana there is no marker which distinguishes an indefinite NP from a definite one: in both cases the bare NP *ōwā* is used.

In terms of anaphoricity, we have seen that definite NPs, unlike indefinite ones, are anaphoric in relation to another NP with the same denotation. The data in (17) and (18) show that bare NPs in Karitiana can be taken up again by a singular pronoun, which is different from the process in English.

(17) Context: the informant narrates his experience with a jaguar.

- a. Yn 'i-so'oo-t **ōbaky-ty**
I 3P-see-NFT jaguar-OBL
 ‘I saw a jaguar.’
- b. Yn i-so'oo-t *sojxa* **ōbaky** i-'yt
I 3P-see-NFT boar jaguar 3P-eat-NFT
 ‘I saw that the jaguar was eating a wild boar.’

- (18) a. **Professo enfermera** na-aka-t i-amby-t
teacher nurse DECL-COP-NFT PART-come-CONC.COP
y-ambip
1P-house
 ‘A teacher and a nurse came to my house yesterday.’
- b. **Professor** na-aka-t i-le-t *livro-ty*
teacher na-COP-NFT PART-ler-CONC.COP livro-OBL
y-'iti hot
1P-daughter to
 ‘The teacher read the book to my daughter.’
- c. **Enfermera** na-aka-t i- so'kym<VT>∅
nurse na-COP-NFT PART-take.care<VT>CONC.COP

y-’tiita
 1P-mother
 ‘The nurse looked after my mother’.

In the data provided in (17) above, the NP *ôbaky* (‘jaguar’) is in the environment of a indefinite NP (17a), and also in another environment which is generally occupied by a definite NP (17b). In (18a) both *professor* (‘teacher’) and *enfermera* (‘nurse’) are new individuals in the discourse and, as such, can be regarded as indefinite NPs. However, the same NPs appear again in (18b) and (18c) respectively, but are now familiar. Thus the cases presented above demonstrate that the NPs in Karitiana are insufficient on their own to make the novel/familiar distinction. We will deal further with anaphoric reference in section 4.3 below.

4.2 Presupposition of Uniqueness

In section 2, we saw that the definite NPs presuppose uniqueness (and familiarity); the indefinite NPs do not carry this type of presupposition. In Karitiana, the bare NPs are used both in contexts which presuppose uniqueness and in those where this presupposition is not present. Cases like (18) are also examples of the presupposition of uniqueness.

At the same time as examples (18) show us that NPs in Karitiana do not distinguish between definite/indefinite or novel/familiar, they also indicate that the same NPs can be used in contexts that presuppose uniqueness. In the case of (18b,c), they denote unique teacher and unique nurse. Let us now look at some cases where this presupposition is not present (19).

(19) I-so’oot-∅ Inácio **sojxa**-ty?
 3P-see-NFT Inácio boar-OBL
 ‘Did Inácio see any boars?’

The sentence in (19) asks if Inácio saw two or more wild boars and, as a result, we can say that the NP *sojxa* (‘boar’) does not presuppose even if there was a wild boar to be seen. We do not attribute the property of uniqueness to the NP in this case, though this would be possible if we were dealing with a definite NP. On the basis of the data analysed above, we can deduce that an NP in Karitiana does not necessarily indicate uniqueness.

4.3 Anaphoricity of NPs in Karitiana

At the end of section 2.1, we showed that the definite NPs oblige us to refer back anaphorically to a previous NP with the same denotation. On the other hand, the indefinite NPs manifest disjoint reference, i.e. they refer to a different individual to the one indicated by the previous NP with a similar

denotation. In Karitiana, the NPs permit anaphoric interpretations, but these are not obligatory. The data in (20a, b) are examples of disjoint reference between NPs, while the ones in (17-18) are examples of anaphoric reference between NPs.

- (20) a. Pyry-’a tyka-n **irip** akan.
 ASS-exist IMP-NFT *tapir* *village*
 ‘There is a tapir in this village.’
- b. Pyry-’a tyka-n **irip** akan ota pip tyym.
 ASS-exist IMP-NFT *tapir* *village* *other* *in* *too*
 ‘There is a tapir in another village, too.’

As example (20) shows, the two occurrences of the same NP *irip* (‘tapir’) have disjunctive reference, i.e. they mention two different tapirs, one in each village. In (17), however, there is an anaphoric interpretation of the second occurrence of *ōbaky* (‘jaguar’), in relation to the first occurrence. Whilst the first NP indicates a new entity in (17a), the second NP refers back to the same entity in (17b). Because of this, we can say that NPs in Karitiana can express both anaphoric reference and disjoint reference in relation to an antecedent NP with the same type of denotation.

In this section, we have seen how the NPs in Karitiana are not capable of distinguishing between definiteness and indefiniteness. As a result, the same NP can introduce both entities which are new into the universe of discourse (which is a common feature of indefinite NPs) and refer to familiar entities (which is a common feature of definite NPs) in this same universe. In the same way, the NPs in Karitiana do not necessarily indicate uniqueness. Finally, we have dealt with the question of anaphoricity and have verified that the NPs in Karitiana can refer back to other NPs (which is a feature of definite NPs), as well as having disjoint reference to a previous NP (which is a feature of indefinite NPs). In the next section, we will present an analysis of the data from Karitiana.

5 Analysis

In line with the description of the data from Karitiana given in the previous section, let us posit two basic hypotheses: i) the NPs, which are bare nominals, do not encode definiteness and indefiniteness in Karitiana and ii) their function is only to introduce a predicate and a variable in the logical form of the sentence. This variable will be determined, either by means of open or hidden quantification, or by means of deixis. If the two hypotheses are correct, then we can predict the following consequences:

- I. The NPs in Karitiana can occur in both definite and indefinite contexts.
- II. The NPs can occur in both existential and universal interpretations.
- III. The NPs will not behave like names of kinds.

The first consequence was amply proved by the examples given in sections 3 and 4 above: the NPs in Karitiana do not encode either definiteness or indefiniteness, and it is the context which causes us to interpret them as definite or indefinite when we translate them to English. We will now look at the other two theses.

Since the NPs in Karitiana are always bare and do not encode definiteness or indefiniteness, we predicted in (II) that they will appear both in contexts of universal quantification, and of existential quantification. The data in (21a-b) below show that the NPs in Karitiana produce universal interpretations.

- (21) a. **Ōbaky** Ø-na-aka-t kinda-t.
jaguar DECL-COP-NFT *entity*-CONC.COP
 ‘Jaguars are animals.’
- b. Oharyjn Ø-na-aka-t **ōbaky**
head.good DECL-COP-NFT *jaguar*
 ‘Jaguars are intelligent.’

The examples in (21a, b) are typically generic, and the NP *ōbaky* (‘jaguar’) is being used with a universal interpretation (‘every jaguar is an animal/intelligent’). The NPs in Karitiana also appear in existential contexts, i.e. those contexts which affirm or presuppose the existence of a certain entity, which confirms the prediction we made earlier. The sentences in (22) below are typical existential structures and appear with the bare NPs in Karitiana. Another situation in which the interpretation is existential is the introduction of a novel entity in the universe of discourse, as in (23) below:

- (22) Pyry-kii-t **geladera** akan pip
 ASS-COP.PL-NFT *fridge* *village* in
 ‘There are refrigerators in the village.’
- (23) Pyry-heredna-n **otiryppo**.
 ASS-appear-NFT *star*
 ‘A star appeared.’

The third prediction made in this section was that the NPs in Karitiana would not always behave like names of kinds. In the example in (25) below, the NPs in bold refer to a kind, which is that of dinosaurs.

(24) **Dinosaurs** became extinct many years ago.

In line with the work of Carlson (1977), the bare plural in English is considered to be a kind-denoting term, and could be used in the sentences above ('dinosaurs') to talk about the extinction of the species of dinosaurs. Thus before we verify if NPs in Karitiana behave like names of kinds, we must look briefly at bare plurals in English. Carlson observed that bare plurals can appear in negative sentences but, unlike indefinite NPs, they are not ambiguous between two interpretations. We can see this in the examples (25) in English.

- (25) a. John didn't see **a teacher**.
 b. John didn't see **teachers**.

The sentence in (25a) can have two interpretations. The first is that there is a certain teacher and that João did not see him/her. This is what is called a *wide scope* reading. The second interpretation of (25a) is that João did not see any teachers at all, and this is called a *narrow scope* reading.

If the NPs in Karitiana are always bare nominals, we could entertain an initial hypothesis that they would behave like names of kinds, as is the case with the bare plural in English. On the other hand, we would expect the NPs in Karitiana to have only narrow and not wide scope. However, on the basis of the description we are undertaking, and of the analysis we are proposing here, we can predict that the NPs in Karitiana will be different from those in English. This means that we are predicting that the bare NPs in Karitiana will allow that sentences similar to (25b) can have two interpretations, one of wide scope, and the other of narrow scope. This prediction is borne out by the data in (26) below.

- (26) **Enfermera** otãm tykiri Ø-na-osedna-j Inácio.
nurse arrive when DECL-feliz-FUT Inácio
 'Inácio will be happy when (a/some) nurse(s) arrive(s).'

In the sentence in (26), the NP *enfermera* ('nurse') could be referring to a specific nurse with a wide scope interpretation: Inácio will be happy when a specific nurse arrives. But this NP can also have a narrow scope interpretation: Inácio will be happy when any nurse whatever arrives. Thus we can affirm that the NPs in Karitiana do not only have narrow scope, just like the bare nominals in English, and have scopal properties like the ones of indefinite NPs, as we saw above.

Our analysis so far has shown that NPs in Karitiana do not encode definiteness and indefiniteness, and therefore we have not been able to

identify the presence or absence of any markers which could indicate familiarity or uniqueness in these NPs. We have also noted that despite the fact that they are bare NPs, they do not behave in the same way as the bare plurals in English.

Let us now try to answer the question of whether the NPs in Karitiana are ambiguous in terms of their having definite and indefinite interpretations produced by an ambiguous zero determiner. Or would it be possible to defend the thesis that Karitiana has two zero (or covert) determiners, one definite and one indefinite? These questions are relevant because most theoretical paradigms will assume the existence of empty categories with syntactic roles. We reject the possibility that there is an empty/zero and ambiguous determiner between a definite and an indefinite interpretation in line with the following argument. Let us imagine that there indeed was a determiner that was ambiguous between definite and indefinite interpretations – call it determiner **D**. The main problem for **D** would be its obligation to carry indistinguishable contradictory information. Thus, in a sentence such as (23), we would be faced with something like **D** *otiyro* ('D star'), and **D** could indicate simultaneously 'the star appeared' and 'a star appeared'.

As a result, **D** would indicate simultaneously that 'a novel star appeared in the discourse' and 'a familiar star appeared in the discourse', i.e. contradictory information would be linked to this determiner, which is incoherent. Another solution would be to recognize the existence of two different empty/zero determiners, one which would encode definiteness and another which would encode indefiniteness. In this case, if there were two different empty/zero determiners which were always possible in the same contexts, the existence of either one of these determiners would be impossible to prove. This hypothesis is therefore vacuous.

Another problem concerning the existence of two empty determiners is their presupposition of uniqueness and their scope. They would indicate that the NP could be simultaneously interpreted as unique (like a definite NP) and as non-unique (like an indefinite NP). In line with this analysis, a sentence such as (26) would have two simultaneous interpretations: Inácio will be happy if the only nurse in context arrives, or if any nurse whatever arrives, which is contradictory and undesirable. In the light of the above, we claim that a zero **D**, either definite or indefinite, does not exist in Karitiana, and the interpretation of *enfermera* ('nurse') as a single person (wide scope) or as any nurse (narrow scope) would be resolved by the context.

Finally, another point which supports our rejection of the existence of one or two zero **Ds** is that of anaphoricity. Since there would be ambiguity between definite and indefinite **Ds** (or, if there were two **Ds**, one definite and the other

non-definite), then in every sentence in Karitiana with at least one NP, D would necessarily indicate that the NP referred back to in the sentence could simultaneously refer or not refer to the same individual denoted by a previous NP. This means that the NP would make an anaphoric reference (as definite NPs do) and would at the same time have disjunctive reference (like indefinite NPs) in relation to an antecedent NP with the same denotation, i.e. it would have two mutually contradictory meanings.

As we have been demonstrating throughout this paper, the NPs in Karitiana do not possess any functional projections (at least not overt ones), nor do they possess determiners; but they can have both universal and existential interpretations. Furthermore, they do not encode definiteness or indefiniteness, and their fundamental role is to introduce a predicate and a variable into the logical form.

Matthewson (1999) argues that familiarity and uniqueness are certainly properties of definite NPs; however, the absence of familiarity and uniqueness is not necessarily a property of indefinite NPs. It stems from implicatures generated by the existence of definite determiners in languages which have them. In a language without definite NPs, the indefinite NPs or, in the absence of these, the unmarked NPs (as in Karitiana) would not generate the implicatures of non-uniqueness or non-familiarity, but would be neutral with regard to these properties. Thus these NPs could be used indistinguishably in contexts of [+/-familiarity] and [+/-uniqueness].

In the light of the above, we conclude that the NPs in Karitiana are neutral in relation to this difference, and that definiteness and indefiniteness are determined by the particular context. A theoretical consequence of this is that the bare nominals will necessarily have an indefinite interpretation, but do not necessarily have a definite interpretation.

6 Conclusions

In this paper, we have tried to verify whether the NPs in Karitiana are able to codify definiteness and indefiniteness. Since Karitiana does not have open determiners or functional categories in its NPs, our aim has been to find out whether the bare NPs alone were capable of encoding definiteness and indefiniteness. We therefore conclude that the NPs in Karitiana are neutral in relation to this difference, and that definiteness and indefiniteness are determined by the particular context.

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