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Remarks on the syntax of bare nouns in Papiamentu

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This article presents an argument that bare (singular) nouns in Papiamentu include additional silent functional structure, as proposed in Kester and Schmitt (2007). The argument is based on Dutch-Papiamentu code-switched noun phrases and exploits the crucial datum that a Dutch bare noun is grammatical when inserted in a Papiamentu sentence, although bare nouns are ungrammatical in a Dutch unilingual sentence. We propose that this datum can be accounted for if the Dutch bare noun is the complement of a silent Papiamentu category, D or Num. The locus of cross-linguistic variation that yields the (un)acceptability of bare nouns is a property in D or Num.

Keywords: bare noun, code-switching, Papiamentu, D, Num

1. Introduction

This article is an investigation into the syntactic structure of (singular) bare nouns in Papiamentu. Papiamentu is a Portuguese-based creole with partial Spanish relexification (Jacobs 2012). It is spoken across the ABC islands (Aruba, Bonaire, and Curaçao) in the Caribbean, where it holds official status alongside Dutch and English. Papiamentu is the predominant language for over 80% of the population (Kester & Fun 2012; Jacobs & Muysken 2019). It is also widely spoken among the ex-pat community in the Netherlands, as we will detail in a minute.

Bare nouns are count nouns that appear in argument position without a determiner or modifier and without number morphology. The following is an example, where *Kómpiuter* is the direct object of *kumpra*:

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(1) Mi a kumpra kòmpiuter
I PAST buy computer
'I bought a computer. Schmitt and Kester 2014: 139

Bare nouns have preoccupied linguists for many years because their semantic and syntactic properties are very intriguing. (A selection of papers on noun phrase structure in Creole languages is found in Baptista and Guéron (2007a), for an overview of issues surrounding bare nouns, see Dayal and Sag (2020)). As so often happens in cross-linguistic studies, we find commonalities as well as difficult-to-account differences. Indeed, the languages that allow bare nouns are not a homogeneous group. Some languages allow for both (singular) bare nouns and bare plural nouns while others only allow for plural nouns. Among the languages that allow for bare nouns some simply do not have any form of a determiner system (Chinese) while others do have indefinite and definite determiners (Papiamentu); some do not have any plural morpheme (Chinese again, but see Chen and Sybesma 1999), while others do have a plural morpheme (Papiamentu again). The semantics of bare nouns also varies cross-linguistically: In Papiamentu a bare noun cannot be interpreted as definite, unlike Chinese or Hindi. It seems that we see multiple parameters in action rather than a straight +/− choice. This article focuses on the syntactic structure and asks one single question: is a bare noun really a bare noun or is there some silent syntactic structure?

There is some debate regarding the grammatical property that allows for the appearance of bare nouns. In other words, if language Lx allows for bare nouns and language Ly does not, we should hypothesize that Lx has a property p absent in Ly that allows for bare nouns. Additionally, property p should be syntactic (or morphosyntactic) since the semantic mechanisms that translate noun phrases into a logical language are assumed to be cross-linguistically invariant (see Heim and Kratzer 1998 for an introduction to the kind of semantics that we assume). We propose to approach the question using code-switching, taking advantage of the fact that many Papiamentu speakers are bilingual speakers of Dutch, a language that does not allow for bare nouns. We use code-switching stimuli as a novel methodology to isolate syntactic variables and help us choose among analytical options. In effect, combining linguistic ingredients of a language with bare nouns with another language without bare nouns allows us to create quasi-laboratory conditions to identify property p.

As far as we can tell, two hypotheses are available regarding the structure of bare nouns. One could take them to be truly bare, a noun or elemental noun phrase without any further nominal projections. Let's refer to this hypothesis as the *Face Value* hypothesis. The Face Value hypothesis has not been proposed for Papiamentu bare nouns (that we know of) but is the basis of the influential

analyses of similar phenomena in other languages by Bošković (2005 et seq) and Chierchia (1998). This approach is shown in (2). In (2) and (3) *c* is any category outside the extended projection of the noun.

(2) c [NP N] Face Value

Alternatively, one may hypothesize that bare nouns include some additional functional projection that happens not to be spelled-out. This approach to Papiamentu bare nouns has been developed by Kester and Schmitt (2007) and Schmitt and Kester (2005, 2014). We call this the *Silent f* hypothesis. This is represented in (3):

(3) c [fP f … [NP]] Silent *f*

The silent *f* category in (3) could be equated with D: The Silent *f* approach would simply be the hypothesis that all nouns project a full DP structure. However, the literature on the internal syntax of the noun phrase has grown considerably in recent years, in particular with respect to the Number category (see Ritter 1993; Hicks 2018 among many others). Thus, the category *f* could instead be Number – productively used in Déprez's (2005) analysis of Haitian bare nouns. Both D and Num will play a role in our resulting analysis.

A third approach could go as follows: the feature that licenses bare nouns is not to be found in the structure of the noun phrase itself, but it is a feature of the clause structure – it would be found in *c*. This analysis then would then be parallel to popular analyses of null subjects in the 1980s, which located the possibility of null subjects in T (see Chomsky 1981; Rizzi 1982). However, as we shall see, bare nouns in Papiamentu can appear in a variety of syntactic environments, which suggests that the feature that licenses them cannot be found outside the noun phrase itself.

The Silent *f* and the Face Value hypotheses carry substantial implications for our theory of grammar. In a line of thinking that originates in Stowell (1981), noun phrases are predicates of type <e,t>. Entities of type <e> or generalized quantifiers <<e,t>t>, capable of being arguments of a predicate, are always DPs or QNPs. If we adopt a Face Value analysis of bare nouns, this theoretical approach must be abandoned: we implicitly assume that some languages allow a bare noun as an argument of a verb, thus proposing that languages may vary with respect to the semantic type of the noun – in some languages a noun can be an entity or generalized quantifier, in other languages it cannot. On the other hand, if we adopt the notion that bare nouns are the complement of a silent category, the property that differentiates Lx from Ly reduces to the availability of a silent exponent for the

relevant category – a much more manageable kind of cross-linguistic difference.[1] Thus, the analysis of bare nouns impacts the foundations of linguistic theory.

As mentioned, we use code-switching to identify the locus of the property that allows for bare nouns. This method is particularly suitable in a study of Papiamentu. Many Antillean migrants residing in the (European) Netherlands are proficient in Papiamentu and Dutch. As explained by van Osch et al. (2023), the historical connection of the ABC islands with the Netherlands has led to a close linguistic bond. Papiamentu's prevalence in the Netherlands, influenced by extensive historical interactions with Dutch and widespread bilingualism in its country of origin, positions it as a post-colonial heritage language (cf. Jacobs & Muysken 2019). It has been reported that Papiamentu-Dutch bilinguals hold positive attitudes toward their heritage language (Kester & Hortencia 2010; Kester & Fun 2012; Pablos et al. 2019), which might be linked to the observable code-switching patterns in naturalistic production, where Papiamentu usually serves as the Matrix Language, with embedded Dutch elements (Muysken et al. 1996; Parafita Couto & Gullberg 2019). Code-switching between Papiamentu and Dutch is widespread and, as shown in earlier work (Pablos et al 2019; Parafita Couto et al to appear), bilingual speakers are able and willing to provide acceptability judgments of code-switched utterances.

In light of these considerations, let us introduce the following example. We have inserted the Dutch bare noun *gloeilamp* 'lightbulb' into what is otherwise a regular Papiamentu sentence:

(4) Papiamentu/*Dutch*
Edison a inventá *gloeilamp*.
Edison PAST invent lightbulb
'Edison invented the lightbulb.'

The surveys of Papiamentu-Dutch bilinguals that we report on in this article tell us that this is a grammatical sentence for the speakers consulted. This finding does not support the Face Value hypothesis: if the feature that licenses the bare noun is contained in the noun itself then (7), which has a Dutch bare noun lacking the necessary feature, should be unacceptable. Instead, the finding is compatible with a Silent *f* approach, since it suggests that the bare noun masks a more complex nominal structure.

Although bare nouns are the focus of our investigation, it is worthwhile to introduce the other noun phrase structures that are present in Papiamentu, for additional context. First, Papiamentu also has bare plurals, as exemplified in (5).

1. For a recent debate on the nature of noun phrases and the DP/NP controversy, see the articles included in https://www.glossa-journal.org/collections/551/

Papiamentu also has DPs headed by a definite determiner, as shown in (6), or an indefinite determiner, as exemplified in (7):

(5) **Muhé-nan** a bisti shimís [...]
woman-PL PAST wear dress
'Women were wearing dresses.' Schmitt and Kester 2014: 141

(6) Mi a topa ku **e amigu i kolega** na Kòrsou.
I PAST meet with the friend and colleague in Curaçao
'I met the friend and colleague in Curaçao.' Schmitt and Kester 2005: 7

(7) Dinosaurus ta **un sorto** extingi
dinosaur PRES a species extinct
'The dinosaur is an extinct species.' Schmitt and Kester 2005: 10

The rest of this article is organized as follows. Section 2 is a literature review and presents the methodology that we deploy in the surveys. Section 3 presents a descriptive overview of noun phrase structure in Papiamentu. Sections 4 and 5 present the two acceptability judgment surveys that we carried out with a community of Papiamentu-Dutch bilinguals. Section 6 presents our discussion and our final analysis of Papiamentu bare nouns based on the results of our study. Section 7 presents the conclusions.

2. Analyses of bare nouns

There are a number of proposals in the literature both for the Face Value approach and for the Silent *f* approach designed to account for bare noun phenomena in a variety of languages. We hope that, by the end of this section, the reader will be convinced that the matter is still open and more studies are necessary.

Within the Face Value tradition, the contributions by Bošković (2005 et seq) and Chierchia (1998) have received substantial attention from the literature. The bare noun data that Chierchia discusses comes from Russian and Chinese while Bošković discusses Serbian-Croatian. Although these languages are typologically very distant from Papiamentu, the analyses they propose are relevant to the discussion of any language with bare nouns.

Chierchia (1998) argues that there is indeed a parameter that splits languages into two categories with regards to the semantics of nouns: a subset of languages in which a noun has the property of being an argument ([+arg]) and a subset of languages in which this is not possible ([–arg]). This semantic parametrization has consequences in the syntax, because the first type of language allows for bare nouns in argument positions while the second does not (see Schmitt and

Munn 1999 for a reaction to Chierchia's proposal as well as Dayal and Sag's 2020 overview chapter).

Bošković (2005) argues that in Serbian-Croatian and a number of other languages bare nouns do indeed have the minimalist structure shown in (2). His arguments are syntactic and based on evidence that extraction out of noun phrases in languages without articles is less limited than in languages with articles. In particular, the contrasts he shows between Serbian-Croatian and Bulgarian – the latter a sister language that does have articles – are remarkable. For instance, Serbian-Croatian allows left branch extraction as shown in (8a).[2] Additionally, Serbian-Croatian allows extraction of an adjunct out of a noun phrase, as shown in (8c). (8b) and (8d) are the parallel Bulgarian examples, both ungrammatical:[3]

(8) a. Skupa(i) je vidio t(i) kola. SC
expensive is seen car
b. * Nova-ta(i) prodade Petko t(i) kola B
new-the sold Petko car
c. Iz kojeg grada(i) je Ivan sreo [djevojke t(i)] SC
from which city is Ivan met girls?
d. * Ot koj grad(i) Ivan [sreštna momičeta t(i)]? B

Bošković 2005: 2

Bošković accounts for the difference between Bulgarian and Serbian-Croatian using phase theory. The idea is that DP is a phase, therefore a barrier for movement. Spec,D can be used as an "escape hatch" by an argument. However, movement of an adjunct to Spec,D is barred by Anti-locality under the assumption that adjuncts are merged in a relatively high position within the DP – extraction of an argument is permissible because it is merged in a lower structure and therefore Anti-Locality plays no role. This accounts for the ungrammatical Bulgarian examples. In Serbian-Croatian there is no DP, NPs are not barriers for extraction and therefore adjuncts can be extracted out of NPs.

Could one extend this argument to Papiamentu? It does not seem to work. The restrictions on left branch and adjunct extraction seem to be safe and sound in this language. Three speakers readily rejected the sentences in (9) and (10).

---

2. Left branch extraction involves constituents of the noun phrase which are linearized to the left of the noun in English. To wit: demonstratives, possessive pronouns and adjectives. In many languages, including English, this extraction is ungrammatical:

i. I bought that expensive car. → *Expensive I bought that t car
→ *That I bought t expensive car

ii. I bought her car → *whose did you buy t car?

3. The glosses are presented as in the original.

Notice that (10) is a bare noun. In (10), we have extracted the PP *di qual ciudad* 'from which city' from the noun phrase *conoce muher (de qual ciudad)* 'knows woman', and the result is ungrammatical, in contrast with the Serbian-Croatian (8c):

(9) * Dushi(i) mi a cumpra un t(i) bolo
sweet I PAST buy a cake

(10) * Di qual ciudad(i) Petro a conoce muher t(i)
from which city Petro PAST meet woman

This does not prove that Papiamentu bare nouns do not conform to the Face Value hypothesis. (9) and (10) might be ungrammatical for independent reasons. However, we must conclude that Papiamentu does not provide extraction evidence for the Face Value hypothesis.

Let's move onto the Silent *f* proposals. Arguments in favor of an empty D have sometimes revolved around their distribution. In a line of thinking that was more popular in the 1980s than it is now, silent categories may need specific licensing conditions – typically involving the government configuration, as defined in Chomsky (1981). Government can be most simply defined as a sisterhood relation between a head H and its complement C that can extend to the spec of C. With regards to bare noun phrases, Contreras (1986) proposed that they include a silent D and this silent D needs to be governed by a lexical category. The empirical basis for Contreras proposal is bare plural nouns in Spanish, which can only be found as arguments that remain within the VP or as complements of prepositions. External arguments or internal arguments that raise to Spec,T are not allowed as bare plurals. This is shown in Examples (11), (12) and (13):

(11) a. Juan vio gacelas en el monte.
'Juan saw gazelles in the mountain.'
b. María trabaja con gazelas.
'Maria works with gazelles.'
c. * Gacelas fueron vistas en el monte.
'Gazelles were seen in the mountain.'

In Examples (11a) and (11b) the silent D is governed by V and P respectively while in Example (11c) the subject noun phrase, located in Spec,T, is not governed by a lexical category. Since the silent D of *gacelas* 'gazelles' is not governed by a lexical category, it is not licensed, and the resulting structure is ungrammatical. Contreras' proposal was taken up by Longobardi (1994, 2001) for his analysis of bare plural nouns in Italian.

Alternatively, Déprez (2005) suggests that bare nouns in Spanish or Italian cannot satisfy the EPP feature of T. Assume the EPP requires matching with an

overt D. Raising a noun phrase to Spec,T entails the presence of an EPP in T, but if this noun phrase does not have an overt D the EPP remains unchecked and the resulting syntactic structure is malformed at LF. The T in Spanish and Italian does not need to have an EPP, which allows a noun phrase to stay within the VP. Thus, Déprez (2005), Longobardi (1994, 2001) and Contreras (1986) all have in common that they account for the possibility of bare nouns by means of a feature outside of the noun phrase proper.

Again, we should wonder if we could apply the same analytical tool to bare nouns in Papiamentu and find out if they need to be restricted to governed positions or some other clausal configuration. If we found that to be the case, we would have a solid empirical argument in favor of a Silent *f*. But the result is negative: we find that singular bare nouns can appear in subject or object position. The subject position is, presumably, Spec,T:

(12) a. Kabritu ta mashá komun na Kòrsou
goat PRES very common in Curaçao
'Goats are very common in Curaçao.'
b. Mi ta gusta pushi.
I PRES like cat
'I like cats.' Kester and Schmitt 2007: 110, 111

As for bare plurals in Papiamentu, the restriction is almost the opposite of what we see in Spanish or Italian: bare plurals can show up freely in subject position, as shown in (13a). They are also attested in indirect object position as well as complements of prepositions (Rivera-Castillo 2022). However, they are not available in the object, governed position, without modification, as shown in (13b):

(13) a. Despues ku hende-nan a keha […]
after that person-PL PAST complain
'After some people complained…'
b. * Mi ta mira buki-nan riba mesa.
I PRES see book-PL on table
'I see books on the table.' Kester and Schmitt 2007: 115, 116

Thus, Papiamentu bare singular nouns are not subject to a syntactic restriction such as government, which argues against the hypothesis that the feature that licenses them should be found in the clausal spine. This deprives us from a potential argument in favor of Silent *f*.

Nevertheless, Schmitt and Kester (2014) claim that Papiamentu bare singular nouns may in fact include a silent D if they are interpreted as indefinite. The reason to make this claim is that Papiamentu bare nouns are substantially distinct in interpretation from the classic incorporated bare nouns that one finds in e.g.

Inuit or Mohawk. This suggestion is plausible – in fact, we will eventually agree with them that this is the most likely analysis. But we would like to substantiate it empirically.

In Kester and Schmitt (2007: 124–129), they present three arguments to argue that bare nouns have a silent determiner. They acknowledge that the arguments are subtle and dependent on the assumption that NPs are always of type <e,t> and only DPs can be referential entities of type <e>. That is, they explicitly reject Chierchia's hypothesis that bare nouns could be arguments.

i. Bare arguments can be an antecedent to a pronoun, which entails the presence of a D that makes the structure referential. Since a NP – in their view – cannot be referential it cannot be the antecedent of a pronoun. This is exemplified in (14), where *yu* 'child' can be the antecedent of the pronouns *nan* 'them' or *e* 'him':

(14) Mi tin yu. Bo ke topa nan /top 'e?
I have child. You want meet them meet him
'I have a child/children. Do you want to meet them/him?
Kester and Schmitt 2007: 128

ii. The second argument goes along similar lines. Bare nouns can be subjects of Individual Level (IL) predicates, as exemplified in (15):

(15) Mucha ta pesa 20 kilo n' e edad aki.
Child PRES weigh 20 kilo in the age here
'Children weigh 20 kilos at this age.' Kester and Schmit 2007: 128

IL predicates are those that form categorical statements in which a property is predicated of an individual or set of individuals. Under the assumption that only DP can denote individuals or sets of individuals, Kester and Schmitt claim that the subjects of IL predicates can only be DPs.

Both of these arguments can be contested empirically. Consider Examples (16a) and (16b). (16a) shows examples of a predicate – 'a doctor' and 'intelligent' – which are antecedents of the pronoun 'it'. Although the rules of English force us to include an indefinite determiner for the noun, this indefinite determiner does not turn the predicate into an individual (examples in other languages can be constructed that do not allow for this determiner.)

(16) a. John is a doctor. It is a very prestigious profession.
b. I consider Trish intelligent. It is a good quality to have.

Example (17) shows that the subject of an IL predicate can be an [–ing] noun without a determiner:

(17) Teaching is dangerous.

iii. The third argument is as follows. They point out that sentence (18), with conjoined bare nouns, may mean that I met with two separate groups of people:

(18) Mi a topa ku amigu i kolega na kòrsou
I PAST meet with friend and colleague in Curaçao
Kester and Schmitt 2007: 129

They suggest that this is possible only if there is an independent silent D in every coordinate, as shown in (19):

(19) ku [$_{DP}$ (e) [$_{NP}$ amigu]] i [$_{DP}$ (e) [$_{NP}$ colega]]
with friend and colleague

Thus, their arguments for a DP in bare nouns depend on the assumption that only DPs can be referential. A scholar that denies this assumption and adopted a Face Value hypothesis would not accept these arguments as valid. In fact, such a scholar could claim that their arguments actually show that bare nouns without a determiner can refer to individuals and act as arguments of predicates.

Consider now Dobrovie-Sorin and Beyssade's (2012: 31&ff) argument that bare nouns in argument positions are DPs while bare nouns in predicate positions are NPs. Their argument comes from French data. In this language a bare noun is possible in a predicate position, as shown in (20a) but impossible as an argument, as shown in (20b). A French noun phrase in argument position must always be introduced by some kind of determiner – in (20c), the plural determiner *des* (which they do not gloss):

(20) a. Jean est médecin.
Jean is doctor
'Jean is a doctor.'
b. * Jean a invité étudiants
Jean aux invited students
c. Jean a invité des étudiants.
Jean aux invited DES students
'Jean has invited students.' Dobrovie-Sorin and Beyssade 2012: 32

This state of affairs can be accounted for if we adopt the assumptions that NPs are predicates, DPs denote entities or generalized quantifiers and only DPs are of the right type to be arguments. From this, it follows that languages with bare nouns in argument position are languages in which D is silent. Dobrovie-Sorin and Beyssade's proposal is plausible but again, we would like to have a broader empirical basis to extend the conclusion to languages other than French, like Papiamentu.

It looks like we do not have a consensus regarding the structure of bare nouns and therefore that the neeed to find empirical evidence is motivated. In this article, we propose a new analytical tool that will allow us to find empirical evidence that will tease apart the two hypotheses. We propose that this analytical tool comes from code-switching, taking advantage of the fact that many Papiamentu speakers are bilingual in Dutch and familiar with code-switching, as we mentioned in the introductory section. Dutch is a useful language in this context because Dutch does not allow bare singular count nouns (for a thorough description of the Dutch noun phrase, see Broekhuis and Den Dikken 2012.)

The structure of the argument is as follows. In Example (21) we have introduced a Papiamentu bare noun in a Dutch discourse. In Example (22) we have introduced a Dutch bare noun in a Papiamentu discourse:

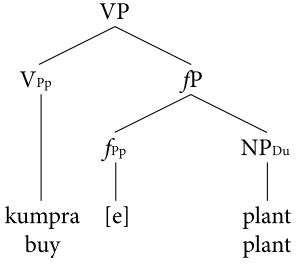
(21) Papiamentu/ *Dutch*
De vrouw koopt mata *in elke winkel*
The woman buys plant in every shop

(22) Papiamentu/ *Dutch*
E muhé ta kumpra *plant* detur pakus
the woman PRES buy plant every shop

Consider (21) first. Since Papiamentu bare nouns do not require to be in governed positions we should expect our language consultants to accept sentences like (21) generally (subtracting, as usual in these cases, the code-switching factor that leads to lower ratings, see Badiola et al (2018) on the role of attitude on the acceptability of code-switched sentences).

Consider now (22), with a Dutch bare noun. The Face Value and Silent *f* hypotheses make different predictions regarding the acceptability of (22). If bare nouns in Papiamentu revolve around a silent *f*, as in (3), nothing prevents this Papiamentu silent *f* from selecting a Dutch noun:

(23)



Silent *f* could be D or Num. Both should be regarded as possibilities. Code-switching between a determiner and a noun is one of the most common forms of code-switching there is (for an overview, see Parafita Couto and Stadthagen-

González 1999). In fact, Papiamentu speakers produce code-switching between an overt determiner and a Dutch noun without any difficulty, as can be shown in Examples (24a–c) from corpora. Therefore, Silent *f* could be D. Moreover, code-switching between Num and the noun is not unheard of[4] and the investigations of Dutch and Papiamentu code-switching do exhibit a few examples, such as (24d). In (24d), the Papiamentu plural morpheme [–nan] is suffixed to the Dutch noun *muis* 'mouse'. Therefore, Silent *f* could be Num.

(24) Papiamentu/ *Dutch*

a. un *elftal* mixto
an eleven mixed [eleven=football team]

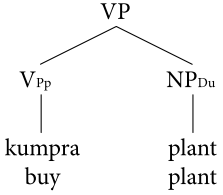
b. e *voetganger*
the pedestrian

c. un *moeilijke keuze*
a difficult choice — Parafita Couto and Gullberg 2019: 699–703

d. e *muis*-nan
the mouse-PL — Muysken et al. 1996: 500

Thus, the Silent *f* hypothesis predicts that (22) should be grammatical, and Silent *f* could be either D or Num. Consider now the Face Value hypothesis that bare nouns in Papiamentu do not include a silent *f*, as in (2). If so, sentence (22) includes a Dutch bare noun that merges directly with the sentential structure:

(25)



4. (i) and (ii) show examples of number morphemes taking a noun as a complement. In (i) the German plural morpheme [–en] takes as complement a Spanish noun. In (ii) the Turkish plural morpheme [–lar] takes a Dutch noun as complement.

(i) German/*Spanish*
Hast du 500 *pel*-en?
have you 500 pel-PL
'Do you have 500 pelas (=pesetas)?' — González-Vilbazo 2005: 141

(ii) Turkish/*Dutch*
bir sürü *taal*-lar-ı *beheers-en* yap-ıyor-ken
one many language-PL-ACC know do-PROG.3-while
'while he knows many languages…" — Backus 1996: 260

But Dutch bare nouns are ungrammatical in the language. There is no feature in the Dutch noun or extended noun phrase that allows it to appear bare. Therefore, the Face Value hypothesis predicts that (22) should be ungrammatical.

At this point, we can add an additional turn of the screw to the argument: we can tease apart alternative versions of the Silent *f* hypothesis. Let us see how.

The bare nouns in examples of (21) and (22) seem to have an existential interpretation (i.e.: they are indefinite noun phrases bound by an existential quantifier). However, bare nouns in Papiamentu can also have a kind interpretation, as shown in (4). Therefore, we can construct examples such as the following:

(26) Dutch/ *Papiamentu*
Edison heeft *pera di lus* uitgevonden.
Edison has lightbulb invented
'Edison invented the lightbulb.'

(27) *Papiamentu*/Dutch
Edison a *inventá* gloeilamp.
Edison PAST invent lightbulb
'Edison invented the lightbulb.'

There are now multiple options to consider. Let's focus on the examples of interest, with a bare Dutch noun inserted in a Papiamentu discourse, as in (22) and (27). It could be the case that both kind and existential bare nouns have versions of *f*, in which case both (22) and (27) would be acceptable. Versions of this approach can be found in the Creolist literature (see Aboh and DeGraff 2014; Alexandre and Hagemeijer 2007; Baptista 2007; Durrleman 2015; Kihm 2007; Kouwenberg 2007; Stewart 2011, but see also for opposing views Bruyn 2007; Schwegler 2007; Zribi-Hertz and Glaude 2007).[5] But other possibilities need to be considered: it could be that only one of (22) or (27) would be acceptable, which would lead to the consequence that one would be a structureless noun while the other would have additional structure. Along these lines, Guillemin (2011) analysis of the Mauritian noun phrase posits a functional structure of existential bare nouns but no functional structure at all for kind nouns.

There is a detailed analysis of Papiamentu bare nouns, that of Schmitt and Kester (2007), which pays particular attention to the existential and kind readings. There is also a detailed analysis of Haitian noun phrases by Déprez (2005) that will come very much apropos to our discussion. We discuss them in Section 6, after we have described the results of our survey.

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5. Baptista and Guéron (2007b: 479): "no referential NP can be bare, that is, deprived of both Num and D projections." However, the reasoning presented in this and the other work is theoretical rather than empirical.

3. The Papiamentu noun phrase

In the following we present a description of some of the properties of noun phrases and bare nouns in Papiamentu, following the discussion in Schmitt and Kester 2005, 2007; Schmitt and Kester 2014; Rivera-Castillo 2022. This discussion is more detailed than is probably strictly necessary to follow the argument; we prefer to sin on the side of prolixity in order to ensure that the reader gets a full picture of the phenomenon. The Creolist is probably fully aware that Papiamentu bare nouns share many features with other Creoles (see in particular Baptista 2007: 461–471, as well as the essays included in Baptista and Guéron 2007a). Likewise, Creolists are aware that bare nouns in Papiamentu behave differently from bare nouns in more familiar languages, such as Hindi, Chinese or Russian. Among some interesting features of noun phrase structure in Papiamentu and other Creole languages is that definite and indefinite noun phrases co-exist in the grammar with bare nouns, as do bare plural noun phrases – this is unlike some other languages with singular bare nouns, such as the above-mentioned, which simply do not have any morpheme that indicates definiteness.

We start with bare nouns, the focus of this paper. We then move onto bare plurals, then indefinite noun phrases and we finish with the uses of definite noun phrases.

3.1 Bare nouns

1. Bare nouns can be mass or count. They admit kind readings as well as generic and existential. In Example (28a), *kabritu* 'goat' has a kind reading. In (28b), *pushi* 'cat' is generic. (28c) exemplifies the existential reading with *kompiuter* 'computer' :

(28) a. Kabritu ta masha komúm na Kòrsou.'
goat PRES very common in Curaçao
'goats are very common in Curaçao.'
b. Mi ta gusta pushi.
I PRES like cat
c. Tin kompiuter arriba mi mesa.
have computer on.top.of my table
'There is a computer on top of my table.'

Kester and Schmitt 2007: 110–1

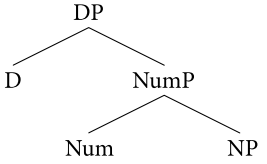
2. Bare count nouns are not singular. In most environments, they can denote a singular or a plural entity. They are acceptable in environments where only a plural denotation is possible. This is exemplified in (29):

(29) Mi a mata yuana pa dos ora largu.
I PAST kill iguana for two hour long
'I killed iguanas for two hours.' Kester and Schmitt 2007: 112

This sentence does not mean that the speaker spent two hours killing an iguana. Rather, it means that she killed iguanas for two hours. The number of the noun phrase can only be determined within the linguistic or extra-linguistic context. Thus, bare nouns in Papiamentu seem to have a *general number* feature (as defined in Déprez 2005, see also Hicks 2018 as well as Corbett 2000 for the original label). The term 'general number' is used to characterize count bare nouns that seem to be number-neutral and may be used to denote singular or plural entities.

Let us dwell on number a little longer. Current syntactic theory routinely assumes that there is a Number Phrase (NumP) standing between the DP and the NP (see Ritter 1993 as well as the essays in fn 1):

(30)



Within this model, we can adopt Déprez's (2005) proposals regarding Num (more details in Section 6). In some languages, Num incorporates an obligatory counter, which makes the expression of plurality obligatory: this would be the case in English. In other languages, Num is not required to have a counter: when there is no counter, the result is general number, indeterminate between plural and singular: a bare count noun. Bare count nouns are syntactically distinct from mass nouns in that the latter do not have Num – mass nouns can be singular/plural only when selected by the appropriate classifier (see Zhang 2013 for a detailed discussion of the interaction between classifiers and the noun/mass distinction).

3. Bare nouns can be used to refer to discourse new, but not brand new, referents (for a discussion of these terms, see Prince 1981). Consequently, bare nouns can refer to unique and familiar objects (the sun, the moon) even if they have not been mentioned in the previous discourse. In the following example, *solo* 'sun' is used as a bare noun without any determiners:

(31) Solo ta kima sin miserikòrdia
sun PRES burn without mercy
'The sun burns without mercy.' Kester and Schmitt 2007: 113

In this same context, a definite noun phrase is not grammatical.

3.2 Bare plural nouns

The plural suffix in Papiamentu is [–nan]. *Nan*, when not affixed to a noun, stands for the third person plural pronoun. It seems to have a very limited distribution:

1. It can only be used to refer to a previously specified set (discourse old, in Prince's terminology). If a plural set is referred to which has not been specified, the bare singular noun is used. Compare the following two examples:

   (32) Despues ku *hende/hende-nan a keha, nan a drecha e película.
   after that person/person-s PAST complain, they PAST fix the film
   'After some people complained, they fixed the film.'

   (33) Si hende/*hende-nan ta keha, no wòri ku nan.
   If person/*person-s PRES complain, no worry with them
   'If people complain, don't worry about them.' Kester and Schmitt 2007: 114

   In (32), the set of people mentioned is specified and *hendenan* is obligatory. In (33), where we consider a hypothetical situation, *hende* is used instead. Thus, the suffix [nan] seems to be a fusion of specificity/definiteness and plurality. As a direct consequence of this restriction, [nan] cannot be used to form existential, generic or kind noun phrases – unless the bare plural is contrastive focus (this latter feature emphasizes the anaphoric nature of [nan].) Finally, [nan] is obligatory in definite plural noun phrases. Kester and Schmitt (2007) take [nan] to be a bona fide instantiation of Num.
2. A bare plural noun is not acceptable in object position unless it is modified (i.e.: there has to be a partition). In the following example we provide three options for the direct object of the verb *mira* 'see'. A bare singular is acceptable (34a) and a modified bare plural is too (34b). Only the unmodified bare plural is not acceptable (34c).

   (34) Mi ta mira (a) buki riba mesa
   I PRES see book on table
   (b) buki-nan na spañó
   book-PL of Spanish
   (c) * buki-nan
   book-PL Kester and Schmitt 2007: 116

3.3 Definite noun phrases

Definite noun phrases in Papiamentu have the regular core uses of definite noun phrases. They can be used anaphorically, including bridge contexts. They also allow attributed and referential readings. Definite noun phrases can never adopt kind or generic readings:

(35) * E bayena ta un mamífero
the whale PRES a mammal

(36) * E leon ta biba na Afrika
the lion PRES live in Africa Kester and Schmitt 2007: 119

Instead, as discussed above, a bare singular is used for kind and generic readings.

The definite article *e* is invariable. But it can combine with a noun bearing the plural affix [nan] to form a definite plural DP: *e mucha-nan* 'the boys'.

3.4 Indefinite noun phrases

The indefinite determiner has the core indefinite meaning and cannot be used to refer to a kind, but it is acceptable with a generic meaning. This is shown in the following examples:

(37) Un hulandes ta papia hulandes.
A Dutch PRES speak Dutch
'A Dutch person speaks Dutch.'

(38) * Un kabritu ta komún na Kórsou.
A goat PRES common in Curaçao Kester and Schmitt 2007: 120

Both bare nouns and indefinite noun phrases can be used in an existential manner. However, there are two differences between them: (i) indefinite noun phrases can only be used to denote a singular entity and (ii) they can have wide or narrow scope with respect to e.g. negation and adverbs, whereas bare nouns can only have narrow scope.

3.5 Summary

Papiamentu has indefinite and definite DPs with core uses as well as a plural morpheme that is further characterized by specificity. Kind readings can only be obtained with a bare noun but bare nouns can also be used with generic and existential readings. Bare nouns can be interpreted as referring to an indefinite plural referent.

4. The first study: Existential bare nouns

The purpose of this study is to find out if a Dutch bare noun could be acceptable in a Papiamentu sentence. As we shall see, we find out that this is largely the case. Additionally, we find that we can also insert a Papiamentu bare noun in a Dutch sentence, although the result is less than fully acceptable.

Participants

A total of 43 Dutch-Papiamentu bilinguals (26 females, age range = 20–69, M_{age} = 33, SD_{age} = 11,8) participated in the experiment. Recruitment was carried out via social media and the personal network of the experimenters. 5 participants were raised in the Netherlands, 3 in both Netherlands and Curaçao, and the rest were originally from Aruba or Curaçao but now reside in The Netherlands. The participants took part on a voluntary basis and signed a consent form before starting the experiment. After the experiment, they filled in a background questionnaire regarding their personal, educational and linguistic background.

Out of these 43 participants, 14 were considered to be early simultaneous bilinguals, as they learned both languages before the age of six, while 29 were considered to be early sequential bilinguals, as they learned (at least) one of the languages after the age of six. This study is based on a group of 34 participants, all of them early learners of Papiamentu of which 13 learned Dutch from early childhood and 21 began the acquisition of Dutch at age 6. We excluded nine participants following three criteria. First, we excluded four sequential bilinguals due to low proficiency in one of the languages. Second, we also excluded two participants that gave every code-switching example the lowest rating, suggesting that their judgments were based more on negative attitudes toward code-switching than their own linguistic reservoir. Thus, the application of these criteria resulted in the exclusion of one simultaneous bilingual and five sequential bilinguals. Finally, since the majority of the sequential bilinguals reported that they were sequential learners of Dutch, the three participants who were sequential learners of Papiamentu or sequential learners of both languages (who spoke Spanish as first language) were excluded, so that we ended up with a relatively homogeneous group of early bilinguals who would have learned Papiamentu from birth and Dutch, at the latest, from the age of 6. Thus, a total of 34 participants were included in the analysis.

Stimuli

A male Dutch-Papiamentu bilingual recorded 44 code-switched sentences, 8 stimuli and 36 distractors in a neutral voice. Instructions were written in Dutch-Papiamentu code-switching. The stimuli were presented using Qualtrics and were pseudo-randomized. The participants were asked to evaluate the stimuli with the following scale:

1. I find this sentence to be strange sounding within my community.
2. I'm not sure. I find this sentence to be somewhat unnatural within my community.
3. I find this sentence to be naturally formed within my community.

Notice that participants are not asked if the stimuli are grammatical or acceptable, only if they are natural. This was a conscious choice because it invites the participants to put aside their prescriptive inclinations. It also raises the bar and tilts the balance against us: if a sentence sounds natural it must also be acceptable and therefore grammatical. However, a sentence may be judged unnatural for a number of extra-grammatical reasons.

The stimuli in this experiment included bare nouns that could only be naturally interpreted as plural indefinites. The following are the stimuli that the participants heard:

(39) *Dutch*/Papiamentu
   a. *De vrouw koopt* mata *in elke winkel.*
      the woman buys plant in every shop
   b. *De man plukt* shimaruku *voor drie families.*
      the man picks cherry for three families
   c. *De leraar opent* bentana *in alle lokalen.*
      the teacher opens window in all classrooms
   d. *De moeder ziet* para *in elke buurt.*
      the mother sees bird in every neighborhood

(40) Papiamentu/*Dutch*
   a. E muhé ta kumpra *plant* den tur pakus.
      the woman PRES buy plant in every shop
   b. E hómber ta piki *kers* na tres famianan.
      the man PRES pick cherry for three families
   c. E profesor ta habri *raam* den tur sala.
      the teacher PRES open window in all classrooms
   d. E mama ta mira *vogel* den tur bario.
      the mother PRES see bird in every neighborhood

The sentences in (39) and (40) are translations of each other. This was chosen purposefully, in order to be able to compare the acceptability of bare nouns in Dutch and Papiamentu directly.

As we saw in Section 2, bare singular nouns in Papiamentu can be interpreted as plural. In Dutch, it is possible to have singular mass nouns, but not singular count nouns and certainly no bare nouns interpreted as plural (Broekhius and Den Dikken 2012: 678 ff). We surmised that a Dutch bare noun which is both count and interpreted as plural would have the potential to sound most alien in a Papiamentu environment and vice-versa. Thus, we deliberately constructed the examples so that the bare nouns in (39) and (40) could only be interpreted as plural by adding particular prepositional phrases at the end of each sentence that would force a multi-event reading. For example, in (39a), the prepositional phrase *in elke winkel* ("in every store") ensures that *mata* ("plant") can only be interpreted as plural, because you cannot buy the same plant in every store. In addition, we also made sure that the code-switched bare nouns were not cognates in the two languages.

Results

When comparing each sentence with its exact translation, the global results that we obtain are as follows:

(41)

Participants (N=34)					
Compared conditions	**Significance**	**Mean condition 1**	**SD 1**	**Mean condition 2**	**SD 2**
cond 1–2	0.0014	2,0956	0,85962	2,4118	0,76470
Condition 1 = Papiamentu bare noun within Dutch sentence					
Condition 2 = Dutch bare noun within Papiamentu sentence					

Two things stand out in this data summary. First, we see that, as an average, our participants rated Dutch bare nouns fairly high, which means that generally speaking they found these stimuli to be acceptable. This datum is crucial in evaluating the Face Value and the Silent-*f* hypotheses and we will go back to this in our discussion section.

Second, we see that the participants seemed to prefer to have the Dutch bare noun in a Papiamentu environment rather than the Papiamentu bare noun in a Dutch environment and this preference was significant (the difference is about 0.4 points in the scale, roughly from 2.1 to 2.4). In fact, our participants seem to be as likely to accept a Papiamentu bare noun in a Dutch sentence as to reject it. Although this datum is not crucial for our hypotheses, a few words are in order before we delve into the analysis proper.

We would like to suggest that the comparatively low score obtained by Papiamentu bare nouns cannot be taken as argument that our participants do not accept these stimuli. In our own experimental work, we consistently found that bilingual Papiamentu-Dutch speakers prefer to insert Dutch words in their Papiamentu speech than to insert Papiamentu words in their Dutch speech (see Parafita et al, to appear, for discussion). We believe this directionality effect is what leads our participants to prefer inserting a Dutch noun in a Papiamentu phrase in the context of a task in which participants were asked to evaluate the *naturalness* of the stimuli. There are certainly sociolinguistic reasons why switching from Papiamentu to Dutch is more natural – if you speak with a Papiamentu speaker in the Netherlands (therefore using Papiamentu as main mode of expression) you can probably assume that your interlocutor speaks Dutch as well and therefore inserting Dutch words in your speech will help with your communicative purpose; but the assumption of a bilingual interlocutor cannot be adopted if your interlocutor is a Dutch speaker. Additionally, as suggested by an anonymous reviewer, the different status of the languages involved may also have played a role in their judgment. We think these sociolinguistic factors yield the preference that we see in (41) and there is, in fact, no or very little grammatical opposition to Dutch bare nouns. In an independent, still unpublished, experiment with the same subjects we tested several types of insertionist code-switching involving nouns or noun phrases in both directions and we found that inserting Dutch nouns is always preferred. To choose an example that is parallel to the bare nouns in (39) and (40), our subjects were asked to compare the acceptability of sentences with the form (42), which involve insertion of a Dutch noun selected by a Papiamentu determiner and (43), with the reverse structure:

(42) Papiamentu/*Dutch*
Duna e muhé su *brief.*
Give the woman her letter

(43) Dutch/*Papiamentu*
Geef de vrouw haar *carta.*
Give the woman her letter

The structure in (42) got an average of 2.62 on a 3-point scale while the structure in (43) received a score of 2.36, a difference that is significant ($p > 0.07$).

This directionality preference was also found in the corpus investigation carried out Parafita Couto and Gullberg (2019) where most of the code-switching went from Papiamentu to Dutch. Finally, this sort of directionality effect is amply reported in the literature of code-switching with other language pairs (see for instance Liceras et al 2008 as well as Parafita Couto and Gullberg 2019 and references therein.) With this we finish our detour and go back to the main thrust of our proposal.

The relevant results of a token-by-token analysis are presented in the table in (44). The numbers in the top row denote the scores. Thus, the sentence item (39a) received a score of 1 by 12 people, a score of 2 by 10 people and a score of 3 by 12 people:

(44)

		Total			
		1	2	3	
39	a.	12	10	12	(Note: insertion of Papiamentu noun in Dutch sentence)
	b.	0	5	29	
	c.	14	10	10	
	d.	17	10	7	
40	a.	9	8	17	(Note: insertion of Dutch noun in Papiamentu sentence)
	b.	3	8	23	
	c.	8	10	16	
	d.	3	8	23	

Notice that (39b) with a Dutch bare noun was not rejected by any consultants and most found it fully natural. As an anonymous reviewer ponts out, the noun *shimaraku* 'cherry', can be used as a mass (granular) noun, which would account for its higher rating. The items in (40), reflecting acceptability of Dutch nouns in Papiamentu sentences had more acceptances than rejections – in fact, (40b) and (40d) were rejected by very few subjects. We surmise that, if there was something wrong grammatically with code-switched bare nouns then we would not obtain the very favorable ratings for items (40b) and (40d) or even the variability shown by the other examples: the participants' grammar would uniformly reject all of them. The variability shown in our subjects' evaluation of (39) and (40) will have to be accounted for with extra-grammatical concepts: there might be sociolinguistic reasons; or something about the register of the words used may not have jibe well for some subjects. As we pointed out, the stimuli were read with a neutral intonation without focusing on any constituent in particular – maybe a change of intonation and nuclear stress would have made some of the sentences more

acceptable. At this point, we do not know what the source of the variability is. The data, however, leads us to conclude that using a Dutch singular bare noun with an existential interpretation inserted in a Papiamentu sentence is a grammatical possibility for Papiamentu-Dutch bilinguals.

Before we proceed with the analysis, let us clarify one additional point. The reader might be tempted to conclude that, since these speakers evaluated both types of sentences with some variability, then code-switching is a lawless kind of phenomenon not regulated by any systematic rules and therefore that asking code-switchers to evaluate the acceptability of code-switched sentences amounts to the pursuit of a red herring. Forty years of research on code-switching militate against this line of thinking and leads to the conclusion that bilingual speakers do have a linguistic competence that regulates their code-switching as much as their monolingual systems. For instance, in an unpublished experiment, our participants uniformly reject sentences in which a noun is inserted in the subject of the sentence, as in (45). However, nouns were easily inserted in object position, as shown in (42) and (43).

(45) *Dutch*/Papiamentu
* *Jouw* mucha ta korta e pan.
your boy PRES cut the bread

Therefore, the results reported in this article cannot lead to an *anything goes in code-switching* conclusion. Rather, taking for granted that code-switching is rule-governed, the conclusion is that their linguistic system allows for bare singular noun phrases spelled out in Dutch.

5. The second study: Kind bare nouns

The purpose of this study was to find out if a Dutch bare noun with a kind interpretation could be inserted in a Papiamentu sentence. The result turned out to be positive. Additionally, we found out that a Papiamentu bare noun with a kind interpretation in a Dutch sentence was rejected by a majority of the participants.

Participants

A total of 17 Dutch-Papiamentu bilinguals (9 females, age range = 21–48, $M_{age} = 28$, $SD_{age} = 6{,}45$, 6 early simultaneous bilinguals and 9 early sequential bilinguals) participated in the experiment. Recruitment was carried out via social media and the personal network of the experimenters. Participants were all originally from Aruba or Curaçao but now reside in The Netherlands. Participants took part on

a voluntary basis and signed a consent form before starting the experiment. After the experiment, they filled in a background questionnaire regarding their personal, educational and linguistic background. No participants were taken out of the pool.

Stimuli

A male Dutch-Papiamentu bilingual recorded 44 sentences, 8 stimuli and 36 distractors in a neutral voice. Instructions were written in Dutch-Papiamentu code-switching. The stimuli were presented using Qualtrics and were pseudo-randomized. The participants were asked to evaluate the stimuli with the following scale:

1. I find this sentence to be strange sounding within my community.
2. I'm not sure. I find this sentence to be somewhat unnatural within my community.
3. I find this sentence to be naturally formed within my community.

The stimuli in this experiment included bare nouns that could only be naturally interpreted as kinds. The following are the stimuli that the participants heard:

(46) Dutch/*Papiamentu*
   a. Edison heeft *pera di lus* uitgevonden.
      Edison has lightbulb invented
   b. De gebroeders Wright hebben *aeruplanu* uitgevonden.
      the brothers Wright have aircraft invented
   c. Kant heeft *ser humano* zonder genade beschreven.
      Kant has humankind without mercy described
   d. Gutenberg heeft *prèntmentu di buki* uitgevonden
      Gutenberg has printing press invented

(47) Papiamentu/ *Dutch*
   a. Edison a inventá *gloeilamp*.
      Edison PAST invent lightbulb
   b. E rumannan Wright a inventá *vliegtuig*.
      los hermanos Wright PAST invent aircraft
   c. Kant a describí *mensheid* sin miserikordia.
      Kant PAST describe humankind without mercy
   d. Gutenberg a inventá *boekdrukkunst*.
      Gutenberg PAST invent printing press

As in the previous experiment, the stimuli in (46) and (47) are the mirror image. Additionally, notice that several of the stimuli are very similar to each other – this will become relevant in the ensuing discussion.

The results we obtained are summarized in (48):

(48)

Participants (*N*=17)					
Compared conditions	**Significance**	**Condition 1**	**SD 1**	**Condition 2**	**SD 2**
conditions 1–2	<0,0001	1,7059	0,82965	2,5441	0,74180
Condition 1 = Papiamentu bare noun within Dutch sentence					
Condition 2 = Dutch bare noun within Papiamentu sentence					

A quick eyeballing of the data shows that the stimuli in (47), with a Dutch bare noun inserted in a Papiamentu sentence is mostly acceptable and natural to our participants (average score 2.5). We mentioned in Sections 2 and 3 that Dutch has no bare nouns (see Broekhuis and Den Dikken 2012: 692 ff). Thus, there is no feature in the grammar of Dutch that could license any of (46) and (47). However, the Papiamentu bare noun is mostly rejected (average score 1.7). At this point, we could suggest, as we did earlier, that this difference is a consequence of the fact that the directionality of code-switching is asymmetric. But the difference is now much bigger (0.8), and the fact of the matter is that the stimuli got a score consistently below 2. This makes these results noticeably different from what we found with existential bare nouns.

Let's consider a token-by-token breakdown of the results:

(49)

	Total			
	1	2	3	
46 a.	9	4	4	(Note: Papiamentu noun in Dutch sentence)
b.	11	4	2	
c.	8	5	8	
d.	8	3	6	
47 a.	2	1	13	(Note: Dutch noun in Papiamentu sentence)
b.	4	2	11	
c.	3	6	8	
d.	0	2	15	

The analysis of the stimuli in (47) confirms our initial impression. With the sole exception of (47c), our participants were quite comfortable with a Dutch bare noun, a possibility absent in a monolingual Dutch sentence.

The stimuli in (46) are puzzling. There clearly is a tendency to reject the stimuli but there is considerable hesitation among our participants. This is surprising because there should not be a problem with a Papiamentu bare noun. At this point, pending a deeper exploration, we leave the matter open.

6. Discussion

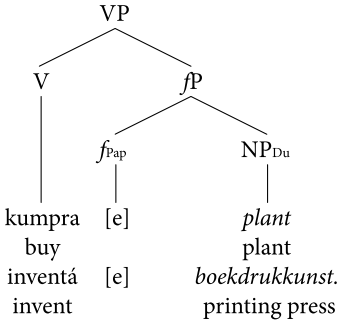
The results obtained in Sections 4 and 5 are clear in one respect: Dutch-Papiamentu bilinguals accept and find natural a Dutch bare noun inserted in a Papiamentu utterance, whether the interpretation is as an existential indefinite or as a kind noun. Recall that our goal in this article is to find out if bare nouns in Papiamentu have the internal structure of a DP or NumP or whether they are nouns without additional structure. These two hypotheses were presented as the Silent *f* and the Face Value hypotheses:

(2) c [NP N] Face Value

(3) c [fP f … [NP]] Silent *f*

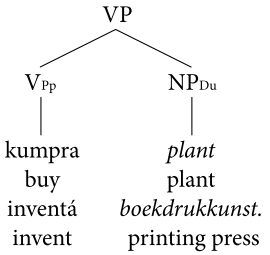
Our strategy to adjudicate between the two hypotheses consists of inserting a Dutch bare noun in what is otherwise a Papiamentu sentence. The Silent *f* hypothesis predicts that the resulting sentence should be acceptable to Papiamentu speakers, who could without difficulty include the silent category in the structure and let it select for the Dutch noun:

(50)



The Face Value hypothesis, represented in (2), should predict that the resulting insertion should be unacceptable:

(51)

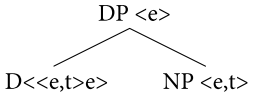


Thus, the Face Value hypothesis is not compatible with the evidence presented in this article. If a bare noun should consist simply of a noun or noun phrase without any additional functional structure, it is not clear how a Dutch bare noun could be acceptable, since Dutch bare nouns are not grammatical in unilingual speech. For instance, Guillemin's (2011) analysis of Mauritian Creole, which posits that kind nouns have no functional structure, is not supported by the findings in this paper because the evidence indicates that kind nouns in Papiamentu do have additional structure.

We now consider the nature of *f* in (50). In order to do so, we introduce two approaches to the nature of bare nouns: Kester and Schmitt (2007) and Déprez (2005).

Kester and Schmitt (2007: 125&ff) argue that bare nouns are DPs with a silent D. Additionally, they argue that their compatibility with a singular or plural interpretation is evidence that the structure does not include a Number Phrase (as mentioned, they do not consider the possibility of general number). The NP is a predicate but it is always merged into the clausal spine as a complement of D. Semantically, a kind is of type <e>, it is the totality of instances of a predicate. Syntactically, a particular type of (silent) determiner does the type-shifting job.

(52)



A bare noun (= a DP) can itself be type-shifted to type <e,t> as a last resort operation when it is an argument of the right type of predicate: the result is the existential bare noun. However, this additional type-shift is not triggered by a functional head and is, therefore, unmotivated. Moreover, an analysis in which bare nouns do not have any form of NumP lumps together bare mass nouns and bare count nouns. But since many languages have the former but not the latter, there should be some grammatical difference between them – as suggested in Section 3.1, this can be achieved if we adopt the assumption that count nouns always have Num (with or without a counter) while mass nouns never do.

Within the Kester and Schmitt line of thinking, the Papiamentu determiner has (at least) three possible exponents: *e* for the definite determiner (see Example 3), *un* for the indefinite one (see Example 4) and a silent exponent for the kind determiner. We show this in (53), where the item to the left of the arrow represents a syntactic terminal and the item to the right represents its exponent:

(53) a. D[def] ← → e
b. D[indef] ← → un
c. D[kind] ← → Ø

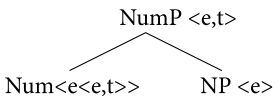
Notice that the analysis in (28) and (29) would help us maintain the original intuition of Stowell (1981) and articulated in Dobrovie-Sorin and Beyssade (2012): NPs are predicates, a determiner acts as a type shifter that raises a predicate of type <e,t> to an individual of type <e>. Additional sub-labels of D determine if this individual is definite, indefinite or kind.

With respect to (21) and (22) as well as (26) and (27), Kester and Schmitt (2007) predict that all of them should be acceptable, since all of them include a Silent *f* – in their model, a Silent D. This is in fact what we have (with the particular exception of (46)) and therefore our results are compatible with the framework presented in Kester and Schmitt (2007).

From their analysis we adopt the position that NPs are predicates and kinds are derived by a silent D. However, we find their proposal for existential bare nouns less compelling, given the problems mentioned above: unmotivated type-shifting and lack of distinction between bare count nouns and mass nouns. For an analysis of existential bare nouns, we turn to Déprez (2005).

Déprez (2005) is an analysis of Haitian bare nouns but we can use it to explore Papiamentu bare nouns as well. Déprez argues that a NP denotes a kind while Num turns a kind into a property of individuals:

(54)



A number may have a counter, which picks an individual or set of individuals from the predicate: the counter forces a noun to be singular or plural. For Déprez, the difference between languages that allow for bare nouns and languages that do not is a parameter that affects Num: the *[±PL] Parameter*. [+PL] languages necessarily project a NumP with a counter. This feature derives two properties in these languages: first, they can't have a bare noun with a kind meaning: the basic kind reading is not accessible because the obligatory presence of Num shifts the kind type to predicate type (a set of entities), which can then be operated on by the counter. The second derived property is the obvious one that they can't have a

bare noun with a plural interpretation. Dutch would be an example of a [+PL] language.

A consequence of Déprez's characterization (which she does not explore) is that [+PL] languages need to derive a kind interpretation by means of a determiner that triggers an additional type-shifting from < e,t> to <e>. This is in fact what we find: in English, for instance, a kind nominal can be constructed as a definite noun phrase: 'the dinosaur is extinct'. It can also be expressed as a plural noun phrase: 'dinosaurs are extinct'. Thus, crosslinguistically, Déprez' analysis leads to the conclusion that there would be two completely different structures for kind noun phrases because kind noun phrases could be simple nouns (Haitian) with no structure or a complex noun with a full DP structure (English). We find this unsatisfactory.

[–PL] languages are defined descriptively by the presence of bare nouns with a kind meaning, as is the case with Haitian Creole (or Papiamentu). These languages do not require the presence of a NumP. For this reason, they can have a bare noun which is syntactically an NP and semantically denotes a kind. A [–PL] language may have a Num without a counter: this is how a bare noun can have an existential meaning with a singular or plural interpretation.

Let's assume that in Déprez' schema Papiamentu is a [–PL] language, since it seems to have similar properties as Haitian. If so, the noun phrase structures of Papiamentu are as in (55). A bare noun with a kind interpretation is a simple NP. A bare noun with an existential interpretation is the complement of a Num head:

(55) a. NPkind: <e> : ← → NP
b. NumP: <e,t> : ← → Ø
c. D[def] : ← → e
d. D[indef] : ← → un

Déprez's theory exemplifies the Face Value hypothesis for kind bare nouns. Regarding our code-switching data, notice that she predicts that (26) should be ungrammatical: Dutch is a [+PL] language, which precludes bare nouns. However, we have seen that Dutch kind bare nouns inserted in a Papiamentu sentence are acceptable and this contradicts Déprez's proposal. As we discussed above, our code-switching data provides evidence that there must be some silent structure in a kind bare noun.

On the other hand, a Dutch bare NP with an existential interpretation – as in (22) – is possible within Déprez' model, because this model includes a Num head without a counter and Num could come from Papiamentu: Déprez's theory is also a Silent *f* hypothesis for existential noun phrases like the one exemplified in (22).

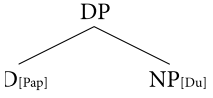
This is where we stand now. We agree with Kester and Smith (2007) that the best way to characterize an NP is as a predicate of type <e,t>. We also agree that it makes sense to take a kind bare noun to include a silent D that type-shifts the resulting structure to type <e>. Since kind noun phrases show an overt determiner in many languages, Kester and Smith's analysis of kind nouns in Papiamentu allows us to assume that kind noun phrases are always DPs in every language. However, their analysis of existential bare nouns is less satisfactory because they insist that their compatibility with singular and plural interpretations entails absence of NumP. Déprez (2005) proposal does include a NumP for existential bare nouns and an insightful discussion of the cross-linguistic properties of Num. However, Déprez proposes that kind nouns in Haiti are bereft of any syntactic structure, which does not align with our results.

In the following, we suggest a synthesis of the results of both analyses in a coherent analysis. The idea we would like to explore is that Kester and Schmitt (2007) are right with kind bare nouns and Déprez (2005) is right with existential bare nouns.

We start with kind bare nouns. We agree with Kester and Schmitt (2007) that a NP is a predicate of type <e,t>. We also agree that the kind reading of a bare noun in Papiamentu corresponds to a DP structure with a silent D (with or without Num). As a bonus feature, this analysis makes the abstract syntax of kind readings in Papiamentu similar to that of other languages in which the kind reading is obtained with the help of a definite determiner (French, Spanish, etc.).

In the code-switched examples, a Papiamentu determiner takes as complement a Dutch NP. This is shown in (56):

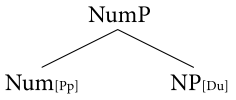
(56)



As pointed out above, code-switching between a determiner and a noun phrase is very common and there are ample examples in the literature. In particular, Papiamentu-Dutch bilinguals deploy this type of code-switching routinely (see the examples in (24-a–c).

As for existential bare nouns, we adopt Déprez's (2005) proposal that they include a NumP without a counter with a silent Num. This Num adopts a generalized number value: the NumP can be interpreted as singular or plural. Num does not, by itself, shift the type of the NP: a NumP is of type <e,t>. In the code-switched examples, we take it that a Papiamentu Num can take a Dutch NP as a complement:

(57)



The possibility of switching between Num and the NP is also well documented (see our Example (24d) as well as fn 3).

In Papiamentu, Num may also be associated with a counter. The counter may spell out as *un* (singular) or as the suffix *-nan* (plural, with an additional specific feature).

7. Conclusions

This article is a contribution to the literature on bare nouns in Papiamentu and bare nouns in the theory of grammar generally with the introduction of code-switching as the main methodological novelty. Code-switching allows us to isolate the variable of interest and see its workings as in a laboratory setting. In this article, placing Dutch bare nouns in Papiamentu sentences allows us to identify The main goal of the paper was to find out if the property that licenses bare nouns and that teases apart languages with bare nouns from languages without is a property of a silent functional category or is a property of the noun itself. We concluded that bare nouns in Papiamentu included some silent functional category.

Our results show that Dutch bare nouns can be inserted into a Papiamentu sentence. This is an interesting datum because Dutch does not allow for bare nouns. Additionally, we have seen that there does not seem to be any feature outside the noun phrase proper that participates in bare noun licensing. We conclude that the bare noun is in fact a NumP (with an indefinite interpretation) or DP (with a kind interpretation) with a silent Num or D. Our analysis synthesizes ideas from the earlier literature (Déprez 2005; Kester and Schmitt 2007, Schmitt and Keller 2014.)

There are many issues revolving bare nouns that are not resolved in this article and will have to await further research. However, we hope that this article contributes to our understanding of the empirical and theoretical landscape that future research may draw upon.

For the scholar interested in code-switching there are some findings in this paper that could also be of interest. Poplack (1980: 586) proposed the *Equivalence Constraint*, which states that code-switching can only apply when the rules of both languages are respected. This constraint has widely been used to analyze the syntax of code-switching. Notice, however, that the Equivalence Constraint does not seem to be relevant to understand the data studied in this paper. Using a Dutch

bare noun in a Papiamentu sentence violates the rules of Dutch grammar and therefore should be prohibited. But it is not.

Finally, we would like to point out that there are many papers on code-switching between determiner and noun and a good number of these papers propose that the acceptability of such a switch depends on whether the features of determiner and noun are compatible (see Liceras et al 2008). Notice that the present paper presents a very particular example of this problem: Dutch does not normally allow bare nouns but Dutch nouns can be used bare in a Papiamentu sentence, which suggests there are apparently incompatible features in the structure. However, the outcome of this instance of code-switching is grammatical. This result aligns with others in the literature (see Parafita Couto and Gullberg 2019; Parafita Couto and Stadthagen González 2019, among others) who have shown that feature incompatibility does not give rise to unacceptable outcomes.

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The language that is the object of our study has two labels: *Papiamentu* is preferred in Curaçao and Bonaire, while *Papiamento* is used in Aruba. The subjects of our study have a Curaçao or Aruba background. We have chosen the label 'Papiamentu' randomly.

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