Morphological number, semantic number and bare nouns

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Abstract

This paper compares the properties of bare nouns in a non-plural marking French Lexifier Creole to those in plural marking languages in order to better understand the role played by number, both semantic and morphological, in determining the meaning of bare nouns. A parameter is proposed that distinguishes languages according to whether or not the structure of their nominal expressions obligatorily includes a functional projection for Number. The presence of NumP is taken to enforce the realization of a kind into its instances, offering a link between the morpho-structure of bare nouns and their interpretation that obviates the needs for a semantic parameterization.

Keywords: Bare nouns; Semantic plural; Morphological plural; Parameterization of plurality

1. Introduction

The question of how to properly capture the meanings and distribution of nominal expressions that lack overt determiners has been the topic of intense research for many years, both in the semantic and in the syntactic literature. Yet, it is only recently that cross-linguistic considerations have begun to be taken into account, or more specifically that approaches attempting to account for attested cross-linguistic variations in the meaning of bare nominals have flourished. The broad and influential proposal of Chierchia (1998) has prompted much investigation into the meaning of bare nominals in a variety of languages (Cheng and Sybesma (1999), Dayal (2001), Déprez (1999, 2001), Longobardi (1999), Munn and Schmitt (2001) among others). The results have challenged some aspects and
predictions of his proposals, such as the distribution of bare singular nominals, while supporting others, such as, the importance of plural morphology in the determination of parametric choices.

The present paper is an attempt to bring into this line of research the questions involved in accounting for the distribution and the meanings of bare nominals (BN) in Creole languages. It focuses centrally on a Romance based Creole, Haitian Creole for two reasons: First, it is mostly within Romance at large that comparative concerns have been critically examined, and second, it is mainly with their superstrate that Romance based Creoles seem, at least superficially, to differ most radically in the interpretation and in the distribution of their bare nominals. Most characteristically, while data on Romance languages have brought to the forefront important constraints on the meaning and distribution of BN, questioning in particular the general availability of kind readings and of bare nominals altogether, Romance based Creoles illustrate in contrast an intensive use and a rather free distribution of nominal expressions without determiners. For instance, while French is often taken to illustrate one of the most constraining languages with respect to the distribution of bare nominals—with few exceptions it disallows bare nominals in argument positions—French based Creoles on the contrary, allow bare nominals quite freely and extensively with a variety of interpretations (Déprez, 1999, in press).

As is well known, Romance based Creoles are languages with a much ‘poorer’ inflectional morphology than their superstrate counterparts. Comparative concerns with Romance based Creoles thus raise interesting questions on the role of morphology in the distribution and interpretation of bare nominals. In Chierchia’s approach, morphological plural is seen as a factor that helps a native speaker determine the basic interpretation of nouns as primary predicates (sets of objects of type \(<e,t>\)) or as primary kind terms (individuals of type \(<e>\)). On this view, morphology is taken to serve as a trigger for a semantic parameter, the Nominal Mapping Parameter, in the sense that it determines an essentially ‘lexical’ choice \(N = <e,t>\) or \(N = <e>\), but morphology does not by itself play a direct role in the interpretation of bare nominals.

The present paper explores a different approach to the role of morphology in the distribution and interpretation of bare nominals. In Déprez (1999, 2001), an alternative parametric approach based on a syntactic parameter is sketched to provide an account of the syntactic and semantic properties of Haitian Creole bare nominals and to better understand the role of morphology in licensing/constraining the meaning of bare nominals. In this approach, morphology plays a direct role in the interpretation of bare nominals at two levels. First, the richness of plural morphology determines whether a syntactic node NumP is obligatorily projected or not in a given language. Second, the presence of NumP in a nominal projection plays a compositional role in determining its interpretation. The present paper confronts this syntactically inspired approach to more extensive cross-linguistic data, it explores its ability to integrate what is known about a variety of non-Creole languages and assesses its consequence for the interpretation of bare nominals in predicative positions.

The paper is organized as follows. Section 2 briefly summarizes the findings on bare nominals in HC and introduces new data on the number interpretation of Haitian BN and on BN in predicative positions. Section 3 develops the alternative proposal first sketched in Déprez (1999, 2001). Section 4 tests the proposal against a wide set of empirical data from Creole as well as non-Creole languages and discusses in detail its consequences. An
analysis of bare nominal predicative sentences is proposed that provides evidence for the syntactic presence of a null functional projection NumP in the predicative use of Haitian bare nominals. The proposal is also shown to provide a straightforward explanation for the restricted use of bare singular nominals in Romance and English predicative and argumental constructions.

2. Properties of Haitian bare nouns

This section summarizes the properties of bare nominals in Haitian Creole and points out some problems for Chierchia’s model that have motivated the alternative parametric proposal explored here. It also investigates in greater detail the number interpretation of bare nominals in HC as well as the properties of HC bare nominals in predicative positions.

As (1) illustrates, Haitian Creole clearly manifests an unrestricted distribution of bare nouns in argument positions. They can be subjects and objects of verbs, as in (1a), as well as objects of prepositions, as in (1b). Both the existential reading (1a) and the generic reading (1c) are available for HC bare arguments and their distribution characteristically depends on the predicate they associate with. That HC bare nouns also allow for a kind reading is shown in (1d) and (1e), where BN occur with typical kind taking predicates in subject and object positions.

(1) a. *Moun koumanse ap pran baton*  
People started taking sticks  
b. *Jan ap danse ak tifi*  
John is dancing with (some) girl/s  
c. *Jouromou pa donnè kalba*  
The ‘jouromou’ cannot produce calabashes  
d. *Elefan ap vin ra*  
Elephants are/the elephant is becoming rare  
e. *Edison (te) envante anpoul elektrik*  
Edison invented the light bulb

In their existential readings, HC BN have obligatory low scope. They contrast in this respect with singular indefinites with the determiner *yon*. As illustrated below, indefinite DPs with *yon* can have scope either above or below negation. Only the second reading is available for bare nouns.

(2) a. *Ou pat we yon tach atè a*  
You did not see one spot on the floor  
There is one spot on the floor you did not see  
b. *Ou pat we tach atè a*  
You did not see spots on the floor  
“There are spots on the floor you did not see

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1 The data in this section were collected over a number of years both from informant sessions and in the literature. For their invaluable help with the Haitian data, I would like to thank Wilson Douce, François Canal, Wisly Paul and particularly Emanuel Vedrine.
Similarly, HC bare nouns cannot take scope over sentence final time adverbs. As the infelicity of (3a) indicates, indefinites with yon necessarily have wider scope than these adverbs, yielding an absurd interpretation. With bare nouns in contrast, the adverbial has wider scope and the sentence is fine.

(3) a. #Jan te tuiye yon lapen pluze fwa
   John killed a rabbit several times
b. Jan te tuiye lapen pluze fwa
   John killed rabbits several times

Finally, as (4) illustrates, HC bare nouns also contrast with yon indefinites in opaque contexts. While yon indefinites have wide and narrow scope readings with respect to the intentional predicate vle (want), HC bare nouns only allow narrow scope.

(4) a. Jan vle rankontre avek yon dokte
   There is a doctor John wants to meet
   John wants to meet some doctor
b. Jan vle rankontre avek dokte
   Jan wants to meet doctors

Modified bare nominals that cannot correspond to kinds, however, do not show the same obligatory low scope properties. As illustrated in (5), they can have either wide scope or low scope with respect to negation.

(5) Jan pa t wè moso machin yo te poze sou tab la
   John did not past see parts machine they Past put on the table
   John did not see parts of the car that were put on the table

Similarly in (6), the Haitian equivalent of ‘John killed rabbits that were running several times’, the modified bare nominal has an obligatory wide scope reading that leads to an incoherent interpretation for the sentence, i.e. repeated killing of the same rabbits.

(6) Jan te tuiye lapen ki t ap kouri plizye fwa
    J. killed rabbits that were running several times

In sum, HC bare nouns clearly display the basic features argued by Carlson (1977) and others to be characteristic of English bare nominals.

Haitian Creole clearly differs from English, however, with respect to number morphology. In contrast to English, Haitian Creole clearly lacks a standard manifestation of plural inflection. There is no plural inflection on nouns, or on predicates, whether adjectival or verbal, or on any tense related particles as (7) and (8) show:

(7) a. Jan achte anpil/plizie/de liv
    John bought many/several/two books
b. Jan achte yon liv
    John bought one book
Plural is marked in the pronominal paradigm, the clearest contrast being between the 3rd person singular pronoun and its corresponding plural, two clearly distinct morphemes.

HC also distinguishes a singular from a plural definite determiner. Characteristically in fact, the plural definite determiner is homophonous (and ambiguous) with the 3rd person plural pronoun, as (10b) shows.

Thus it seems fair to conclude that plural distinctions in HC are essentially limited to the pronominal domain and, consequently, that the language displays no inflectional plural morphology. While the lack of inflectional plural morphology is not particularly surprising in itself, it turns out to raise trouble for Chierchia’s proposed parametric approach to bare nominals. With respect to number marking, Haitian Creole seems indeed to be typologically close to Chierchia’s Class-I-languages, i.e., the Chinese/Japanese class. For Chierchia, Class-I bare nouns have the basic denotation of kind terms with corresponding mass properties and are [+arg][-pred]. These languages manifest: (1) a rather free distribution of bare nominals in argument positions—since kind terms are individuals of type <e> and good argument types—(2) a lack of plural morphology, (3) the obligatory presence of classifiers for count nouns, and (4) no distinction between mass and count nouns—since properties derived from kind terms have a mass denotation.

While Haitian Creole clearly displays the first two properties of Class-I-languages, it just as clearly differs from them with respect to the two remaining ones. First in Haitian Creole, (and all other French based Creoles)\(^2\) number terms and quantifiers directly associate with count nouns. The presence of a classifier is never required:

\(^2\) Although data from other French Based Creoles are not reviewed here, the generalizations mentioned for Haitian Creole also obtain for other French based Creoles. In Seychelles Creole, however, BN can additionally have a definite interpretation. See Déprez (in press) for a discussion.
This, however, is not true of HC mass terms, which, like in English or in French, require the presence of a measure phrase to be adequately partitioned. In contrast to count nouns, mass nouns also resist pluralization in HC. They do not allow the plural determiner yo, unless they have a sub-kind or taxonomic reading:

(12) a.  
\[\text{Mwen manje diri } ^{\text{yo}} \]
I ate the(plur) rice(s) (ok I ate several types of rice)

As shown in (13) moreover, HC mass nouns must be referred to with a singular pronoun, a plural one being excluded. This, however, is not true of count nouns, for which a plural pronoun can be used (13b):

(13) a.  
\[\text{Paske lo (se bagay ki) ra, } ^{\text{li}/^\text{yo chè}} \]
Because gold is rare, it is expensive

b.  
\[\text{Paske elefan se bèt ki ra, } ^{\text{yo chè}} \]
Because elefants/the elefant are/is a/rare animal(s), he/they is/are expensive

HC bare count nouns further differ from HC mass nouns in the accessibility of their ‘minimal parts’. These seem quite directly accessible for bare count nouns, but not for mass nouns. As shown in (14), HC bare count nouns are compatible with distributive reciprocal predicates, i.e., predicates ranging over the atomic parts of a plurality, but mass nouns are not.

(14) a.  
\[\text{Neg, se yon rayi lot} \]
As for people, one hates the other

b.  
\[\text{*Sab, se yon sanble lot} \]
As for sand, one resembles the other

Note, interestingly, that in this respect, HC bare count nouns differ from other known non-plural kind expressions such as singular definite kinds, which generally fail to support reciprocal predication:

(15)  
\[\text{*The lion hate each other} \]

Given the above-discussed differences, HC bare count nouns cannot simply be assumed to have the same semantic value as mass nouns, a result not predicted on Chierchia’s approach, since HC has no regular plural morphology.

We have seen above that HC count BN differ from mass BN in a number of respects. Below, we see that they also differ from the count BN of regular plural marking languages. To begin with, HC count BN can have either a singular or a plural construal, depending on a variety of contextual and pragmatic factors. Consider the examples in (16):

(16) a.  
\[\text{Jan achte liv pou Pòl} \]
John bought book for Paul

b.  
\[\text{Jan achte kay pou Pòl} \]
John bought house for Paul
While in (16a), the BN *liv* is preferably understood as a plural, the opposite is true in (16b) for *kay*. Yet there are, strictly speaking, no linguistic differences between these two sentences. The plural vs. singular construal of the BN appears here to be due to socio-cultural and pragmatic factors. Joseph (1988: 88) gives the following explanation. As books are rather affordable objects to buy, the speaker that would have wanted to signify singularity in (16a) could have used the indefinite/numeral marker *yon* = one, a. In absence of *yon*, the bare noun in this context signals a plural interpretation. In (16b) in contrast, socio-cultural factors make the singular interpretation most salient, houses being objects that are not commonly bought in quantity. Thus some markers such as *anpil* (many) would have been needed to signify plurality. In the absence of such markers, the singular interpretation is favored. This singular interpretation is clearly not available for an English bare plural, despite comparable pragmatic presuppositions on house buying events. In such contexts at least, an overt determiner is required to express singularity in English. Similarly in (17), the interpretation of the BN *piki* is preferably singular, but nothing properly linguistic forces it to be:

(17)  
\[ l i \text{ te } b a y \ m \ p i k i \]  
S/he gave me a shot

In (18), the interpretation of the BN *kalbas* is dependent on the overtly marked number of the subject. As it is known that children can usually carry only one calabash at a time, (18a) has a singular construal. For the same reasons exactly, (18b) has a plural (distributive) one:

(18)  
\[ a. \quad T i \ m o u n \ n a n \ p a \ p o t e \ k a l b a s \ p o u \ l \ p r a n \ d l o \]  
The child did not bring a calabash to take water  
\[ b. \quad T i \ m o u n \ y o \ p a \ p o t e \ k a l b a s \ p o u \ y o \ p r a n \ d l o \]  
The children did not bring calabashes to take water

Confirming this dual interpretative possibility, either a singular and or a plural pronoun can be used to reference a BN:

(19)  
\[ a. \quad Z w a z o \ f e` n i c h \ l i / y o \ n a n \ p r e n t a n \]  
Bird(s) build its/their nest in the Spring  
\[ b. \quad C h e n \ s e \ b e t \ k i \ j a p e, \ l i / y o \ j a p e \ a n p i l \ n a n \ n w i t \]  
The dog/Dogs is/are (an) animal(s) that barks. It barks a lot at night  
\[ c. \quad B o u r i k \ f e` p i t i t \ s e \ p o u \ d o \ l` k a \ r e p o z e \]  
Haitian Proverb  
A donkey has an offspring so that its back can rest  
\[ d. \quad B o u c h \ m a n j e \ t o u t \ m a n j e, \ m e n \ l i \ p a \ p a l e \ t o u t \ p a w o l \]  
(Savain, 1993: 103)  
The mouth can eat all food but not say all words  
\[ e. \quad V w a y \ e l \ k o n \ c h a n t e. \ Y o \ g e n \ b e l \ v w a \]  
(Dejean, 1985: 3)  
Vowels can sing. They have a nice voice.

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3 Singular interpretations of English BN are possible in so called dependent plural contexts: Unicycles have wheels.
That HC BN are clearly compatible with semantic plural requiring predicates is shown in (20). In this respect, they pattern in similarity with bare plurals.

(20)  

a. *Zòtolan gaye nan tout mòn  
Ortolans are spreading in the whole mountain  

b. *Yon zòtolan gaye nan tout mòn  
An ortolan is spreading in the whole mountain

But they also resemble singular definite kind terms that can felicitously associate with semantically plural predicates, in spite of their morphological singularity:

(21) The lion gathers near acacia trees when it is tired  (Carlson & Pelletier 95: 90)

Further Haitian examples, in fact, clearly show that both the ‘singular’ and the ‘plural’ construal of BN is available with semantically pluralizing predicates. In (22), we see that a reflexive form of the same verb allows for either a plural or a singular pronominal reference to the bare noun.

(22)  

a. Zòtolan gaye kò li nan tout mòn  
Ortolan spread body his in whole mountain  
The ortolan is spreading (itself) in the whole mountain  

b. Zòtolan gaye kò yo nan tout mòn  
Ortolans spread body their in whole mountain  
Ortolans are spreading (themselves) in the whole mountain

Data in (1–6) have shown that Haitian BN have a number of properties that are identical to those of English BN. In particular, they allow for existential, generic, and kinds readings and have systematic low scope. However, Haitian and English BN differ with respect to number marking and interpretation. In contrast to English, Haitian BN show no number marking and are compatible with both a singular and a plural interpretation in existential and generic contexts. The facts reviewed above thus clearly suggest that Haitian BN are under-specified for number, both morphologically and semantically. Yet, as there are some clear distinctions between HC count BN and mass nouns, it seems empirically clear that being under-specified for number is not equivalent to having a mass denotation. HC count BN do not need a classifier or a measure phrase to felicitously associate with numerals or quantifiers. The plural definite determiner can determine them and they are compatible with reciprocal predicates. HC mass BN in contrast, manifest none of these properties and seem rather to correspond to a morphological singular, as they can be referenced by singular pronouns only.

Put together, these data raise problems for Chierchia’s proposed typology of bare nominals. Like Chinese-Japanese BN, HC BN can be said to be morphologically unmarked for plural. Yet, they do not require the presence of classifiers and manifest a count/mass distinction. HC BN cannot be easily assumed to be English-like either, i.e., [-arg] [-pred], as they have a possible singular construal. Moreover, HC lacks the required trigger for the [-pred] setting, namely morphological plural. HC BN also differ from the Class-III BN, i.e.,
the Romance BN, in distribution and in interpretation. They readily allow a kind interpretation and manifest no distributional subject/object asymmetry.

As Munn and Schmitt (this volume) discuss, Chierchia’s proposal also indirectly makes some predictions for bare nominals in non-argument positions. The occurrence of Class-I BN, with features [+arg][-pred], should either be impossible or severely restricted. The reverse is expected for Class II and III BN, which as [+pred] should occur in non-argument positions without restrictions. Munn and Schmidt show that for [+pred] languages like English, Chierchia’s predictions fail. In English, for instance, it is clear that predicative BN manifest as much of a plural restriction as argument BN (23):

(23) a. *John is doctor
    b. *The lion is mammal

Since for Chierchia, the plural restriction is a consequence of the type-shift to kind denotation required in argument positions to provide a suitable argument of type <e>, it is not motivated in predicative positions.4

Chierchia’s predictions also seem to fail with respect to a potential class-I-language like HC. If BN are [+arg], their distribution should be severely restricted in predicative positions. But as examples (19) repeated here in (24) and example (25) show, HC BN, in fact, occur quite freely as predicates:

(24) a. *Chen se bet kide jape. Li jape anpil nan nwit
    Dog Pres animal that barks. It barks a lot at night
    b. *Chen se bet kide jape. Yo jape anpil nan nwit.
    Dogs Pres animals that bark. They bark a lot at night

(25) a. *Michel se mason
    Michel is mason
    b. *Loulou se tigason
    Loulou is a boy
    c. *Yon tomat se legim
    A tomatoe is a vegetable

Interestingly, as (24a) with a singular pronoun and (25) show, bare nominal predicates are not limited to plural predication in HC. They can have a singular interpretation. In this respect, their distribution is even less constrained than in English. HC BN, in sum, fail to adequately fit Chierchia’s proposed typology both in argument and in predicative positions.

3. An alternative approach: the plural parameter

Chierchia (1998) proposes to derive cross-linguistic variations in the meaning of BN from the interaction of a flexible mapping between syntactic categories and semantic

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4 As noted by Zamparelli (pc), the restriction to plural in predicative position is a mystery for any approach that assumes a basic predicative denotation for BN.
types, a semantic parameter governing this mapping and some economy constraints on a universal set of type shifting operations (cf. the Blocking Principle). The model explored here offers instead a rigid category to type match, as in the original spirit of Montague grammar, and as advocated in Zamparelli (1995), and uses null structure and syntactic principles and parameters to derive the possible meaning range of bare nominals. In so doing, it attempts to increase recourse to syntactic structures and parameters that have been independently motivated in recent works on DP in an effort to better interface semantic interpretation with the results of syntactic findings. The aim, moreover, is to follow the Boron-Chomsky (1995) line of thought in its attempt to limit the domain of parametric variation to morphology and to deduce, whenever possible, interpretative distinctions from overt morphological differences. The central ingredients of this proposal, first sketched in Déprez (1999, 2001), are briefly summed up in the table below. They are discussed in the present section.

<table>
<thead>
<tr>
<th>The Plural Parameter</th>
<th>(Déprez, 1999, 2001)</th>
</tr>
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<tbody>
<tr>
<td>NumP must project and contain a semantic counter (±)</td>
<td></td>
</tr>
<tr>
<td>NP → &lt;ε&gt; kind</td>
<td></td>
</tr>
<tr>
<td>NumP → &lt;ε,τ&gt; realization of a kind (object level individuals or sub-kinds)</td>
<td></td>
</tr>
<tr>
<td>NumP = λK.λn.λw.λx[R/T_w (x,K) &amp; OU/U_w(K)(x) = n]</td>
<td></td>
</tr>
<tr>
<td>NumP introduces a predicate over objects (R) or subkinds (T) of a kind (and a counter of object units (OU) or kind units KU)</td>
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</table>

The proposal explored here has at its heart a morpho-syntactic parameter called the Plural Parameter. This parameter distinguishes two broad sets of languages, the +PL and the –PL, according to whether or not the structure of their nominal expressions obligatorily includes a functional projection for Number. In + PL languages, NumP must systematically project, for count nouns at least—that is, even when the noun phrase is singular with no apparent overt “plural” or “singular” morphology—and this NumP must contain a counter, i.e., a measure function, which I take, as a first approximation, to be the translation of countability. In –PL languages, on the other hand, the projection of NumP is optional and when it occurs, NumP does not have to contain a counter.

Like other parametric distinctions in current day syntactic theory, the proposed Plural Parameter concerns functional structure and capitalizes on an overt morphological difference among languages, namely the presence vs. absence of a ‘rich’ plural morphology. However, the frontier between +PL and –PL languages, I suggest, is not so much in the ‘richness’ of the morphological marking, as in its ‘unavoidability’. Understood this way, the parameter separates on the one hand, languages in which, in the most general case, no morphological form of count nouns is understood outside of the number system—that is, nominals are either singular or plural and interpreted as such, so that the absence of plural morphology entails a

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5 It is important to note that despite its name, the proposed parameter is not claiming that some languages, the –PLL ones, fail to express plurality.
singular interpretation—and on the other hand, languages in which one form of the noun manifests what Corbett (2000) has called ‘general number’—with the meaning of ‘one or more x’.—what I have here called an under-specified form.

The spirit underlying this proposal is as follows. I follow Bosweld de Smet (1997) in assuming that notions such as mass and count are lexical in nature and distinguished from notions such as uncountability and countability, which are structural and thus compositional. On this view, the mass/count distinction is a lexical feature, assigned on the basis of the ease with which a noun appears in unambiguously countable or uncountable contexts (Allan’s 1980 ‘Countability preference’ test) but it can be overruled by contextual or syntactic factors so that mass terms can become count and count terms uncountable. The basic denotation of all nouns, however, is assumed to be the same: They denote kinds and are under-specified for number. All N have thus the same semantic denotation, with countability being a compositional syntactic notion that is superimposed on their basic denotation. In the view explored here, it is NumP that assumes the role of bringing about countability, as it retrieves on the one hand instantiations of a kind (objects or sub-kinds (following Krifka, 1995)) and imposes, on the other hand (but in some cases only), a measure function on these instantiations. Formally, counting can be seen as an application of the cardinality function to sets of individuals. Measure functions can be seen as the application of some measure function that results in a proper partition. It has been suggested by Colban (1991) and Nerbonne (1993) that measures are perhaps more general than cardinalities and that the latter are a special case of the former. Although my concerns in this paper are limited to count nouns, this suggests that even though the ‘measures’ of the measure function may change for mass nouns and count nouns, their role as well as their syntactic realization is essentially the same. Both are located in NumP. In this respect, I follow Cheng and Sybesma (1999) in assuming that classifiers are largely the equivalent of plural morphology in languages that have them. These languages, however, still differ from the +PL languages in allowing for an optional projection of NumP rather than an obligatory one.

The proposal further assumes that NumP can have two distinct possible realizations:

(1) NumP can be a pure instantiation of the Carlsonian realization rule R (without stages cf. Krifka, 1995) from kind to objects and generalized to taxonomic sub-kinds, that gives the set of objects (or sum of objects) or sub-kinds (or sums of sub-kinds) instantiating a given kind in a given world:

\[
\text{NumP} = \lambda w \lambda x. R_w(x, K)
\]

In this case, the resulting denotation of a NumP projection is that of a property true of individuals or sum individuals and under-specified for number. Closure of this property yields the existential reading of bare nouns that are under-specified for number. As the present paper does not bear directly on how this closure occurs, I will leave this choice open, various options being compatible with the present proposal. Given the formulation of the Plural parameter above, this type of NumP is allowed in –PL languages only.
NumP can be the Carlsonian realization rule associated with a measure function that returns a countable property. I follow here Krifka (1995) in assuming a measure function (OU = object Unit), which, when applied to a kind and an object, returns a number, giving us the number of objects instantiating the kind in a given world. Krifka also generalizes this function to sub-kinds (KU = Kind Unit) for languages like English that do not distinguish measure functions for object units and kind units. (Three bears = three object bears or three subkind bears). The denotation of NumP for this case is given in (27):

\[(27) \text{NumP} = \lambda K \lambda n \lambda w \lambda x [(R/T_w (x,K) & OU/KU_w (K)(x) = n)]\]

Note importantly that the counting function OU/KU introduces a number argument. The presence of this number argument in turn requires the presence of some element to saturate it. I take it that various morphological elements can saturate the counting function in various ways, but what is crucial is that there be some element to accomplish this saturation. For instance, if NumP contains a number term, then this number term can saturate the number argument. This, for example, derives the following denotation for NumP applied to the kind BEAR and the number term three:

\[(29) [\text{NumPThree bears}] = \lambda w \lambda x [R_w (x,\text{BEAR}) & OU_w (\text{BEAR}) (x) = 3]\]

The same is true I assume, if the number term is one or is an indefinite determiner with essentially the same meaning as a. A second way of saturating the number argument is with plural morphology. If NumP contains a morphological plural marker (s for English), then following Krifka again, I assume that the number argument can be existentially quantified over as follows:

\[(30) \text{Bear} + s \exists n \lambda w \lambda x [R_w (x,\text{BEAR}) & OU_w (\text{BEAR}) (x) = n > 1]\]

In the absence of any morpheme, however, and if nothing happens at a higher functional level, such as for instance the introduction of a determiner, the number argument will remain unsaturated and the NumP will be un-interpretable. This, I suggest, is what is at the source of the impossibility of singular bare arguments in + PL languages, where the projection of NumP is obligatory and must contain a counter.

The proposed Plural Parameter locates variation in the lexicon, or more specifically in the inventory of morpho-syntactic features a language may chose to instantiate. It adds, however, a twist to this broadly accepted view of parametric variation, in the sense that morphological ‘richness’ is here tied to a specific interpretation with the result that the parametric choice now has semantic consequences in addition to expected syntactic ones. The key idea is that languages that manifest a ‘rich’ plural morphology project a nominal structure that contains a semantic counter over realizations of a kind. Languages that do not have a rich plural morphology, in contrast, do not enforce the presence of such a projection,
nor of such a counter, although, they can allow them optionally.\textsuperscript{6} It thus follows from this proposal that languages that have a richer plural morphology are expected to manifest more constraints on the possible interpretation of their bare nominals.

The proposed Plural Parameter as formulated above has three direct semantic consequences.

1. Only the \textit{\textminus}PL languages allow direct access to the basic kind denotation of nouns. For the \textit{\textplus}PL languages, access to kind denotation requires the presence of a relevant operator.
2. Only the \textit{\textminus}PL languages can have bare nominals that are under-specified for number and thus compatible with either a plural or a singular construal depending on contextual factors.
3. In \textit{\textplus}PL languages, in the absence of relevant morphology, bare ‘singular’ nominals, i.e., NumP that contain an unsaturated counter, are excluded.

This simple parametric proposal has some far-reaching semantic and syntactic consequences. The following section will test these predictions against a number of cross-linguistics empirical facts. The proposal offers a rigid category to type match in the sense that the syntactic category NP and the syntactic category NumP are always assumed to rigidly map into a single semantic denotation. NPs are always mapped to a denotation of type \texttt{\textlt;e\textgt;}. In this respect, the claim of the present proposal is that the category NP always denotes a kind and never anything else, cross-linguistically. The category NumP, on the other hand, always denotes the realizations of a kind, that is, the set of objects/subkinds that instantiates a kind in a given world, and in this sense, it always maps onto an \texttt{\textlt;e,t\textgt;} denotation.

Syntactically, the proposed Plural parameter entails that bare arguments can be NPs in \textit{\textminus}PL languages only, and that whenever they are NPs, they always denote a kind. For \textit{\textplus}PL languages, in contrast, the parameter entails that bare arguments cannot map onto NPs. The syntactic consequence of the proposal is that bare arguments must always be minimally NumPs. If we take the NumP projection to be in a sense structurally equivalent to a null determiner—it is a null syntactic functional head endowed with number features—the proposed parameter can then be said to entail that bare arguments always have null determiners in \textit{\textplus}PL languages, but not necessarily in \textit{\textminus}PL ones. The presence of a null syntactic determiner-like-head on top of bare nominals has been argued for extensively in

\textsuperscript{6} The obligatory versus optional projection of NumP is one dimension of variation. The presence or absence of a semantic counter is presumably another. Here, as in my 2001 paper, these two dimensions are directly linked, but further cross-linguistic comparison could justify a move to consider independent variation of the two. Since in the proposed model, the former dimension governs direct access to kinds while the later concerns number interpretation, the possible dissociation of the two factors would make room for languages that allow bare singular (underspecified) arguments but no direct access to kind readings (obligatory NumP, optional counter). Brazilian Portuguese has been argued to be such a language in Muller (2000). However, there seems to be disagreement on the basic facts, since Munn and Schmitt (2001) have noted in contrast that bare singulars in BP can have a kind reading. These may of course represent two distinct dialects, a conjecture that seems quite likely given the weakening force of plural marking in BP. As described by Muller (2000) ‘The bare plural belongs very much to the written language register. The most usual oral nominal forms that express genericity in BP are either the definite singular or the bare singular.’ The dissociation of the two factors is explored in further work.
the works of Longobardi (1994 and following) as well as in Chierchia (1998), for the Romance languages. There are, however, fewer consensuses on the presence of a null determiner for English BN. But interesting synchronic and diachronic syntactic arguments can be found in the works of Longobardi (1994, 1999) and Crisma (1991) among others. The presence of null NumP heads has also been proposed for Chinese (Cheng and Sybesma, 1999) and Brazilian Portuguese (Munn and Schmitt, 2001). The arguments given in these works are not repeated here. Instead, a new syntactic argument is provided based on the distribution of Haitian Creole bare nominals in predicative sentences. Notably, it is a consequence of the proposal made here that BN should always be NumPs whenever they are used predicatively, kinds being a priori not adequate predicate types. This makes the prediction that predicate BN should always have a null determiner like projection even in languages where NumP is optionally projected. A study of Haitian BN in predicate position will provide empirical support for this prediction.

4. Testing the empirical ground

In this section, the proposed alternative described in Section 3 is tested against a variety of empirical facts to evaluate the validity of its predictions. I first return to Haitian Creole BN, our present example of a –PL language, and show how the above model accounts for its properties. I then turn to a more detailed investigation of Haitian BN in predicative position and consider how the present model fares with respect to predicate BN in a –PL language. I then consider descriptive generalizations about bare nominals in distinct types of +PL languages, in particular, English, Italian, French and Hindi.

4.1. Haitian Creole: a –PL language

As described above, Haitian Creole is very clearly a –PL language as it only optionally marks number, whether singular or plural. It was shown above that HC BN could have kind readings as well as existential and generic readings. In terms of the Plural Parameter summarized above, direct access to a kind reading is predicted, as NumP does not have to project in this language. Note moreover, that on this view, directly accessed kinds are under-specified for number. It thus follows that BN interpreted as kinds should be able to correspond indifferently to a morphological plural or a singular. This prediction is verified in HC with examples like (22) that clearly have a kind reading and allow either singular or plural pronominal reference. The existential and generic readings of HC BN are also predicted. In these cases, NumP is taken to project, leading to a property that can be closed under existential quantification or binding by a generic operator. Assuming that closure of NumP under existential quantification proceeds essentially in the same way in ±PL languages, existential bare nominals are expected to have essentially the same scopal (or more exactly scopeless) properties, as was indeed shown to be the case. The main difference with English was shown to concern number interpretation. In this respect, since Haitian Creole is –PL, the prediction of the Plural Parameter is that NumP does not have to contain a counter with the result that bare NumPs can remain under-specified for number. Lexical, pragmatic and contextual information will prevail to determine the plural
or singular interpretation of HC bare nominals under their existential as well as generic interpretations. It is for this reason, in my view, that HC permits what can be considered as semantically singular bare arguments in examples like (16b) and (17). Note, however, that specification for number is optionally possible for HC NumP. In this case, however, some morpheme must be present to saturate the number argument. Such NumPs must thus correspond to nominals with an overt determiner (not to BN), such as for instance a numeral term like the numeral one *yon that also serves as a marker for singular indefinite nouns.

Note that the proposal put forth here entails that bare nominals in a –PL language do not have the same syntactic structure on their kind denotation and on their property denotation. On the former they are bare NP projections, on the later, they have a null NumP. Empirical evidence for such a claim would of course considerably reinforce the proposal. Yet finding empirical evidence for the presence of an invisible and inaudible element is never easy. One traditional type of evidence adduced for the presence of a null syntactic head in BN has been the distributional subject/object asymmetry observed in the Romance languages. However, as was shown above in Section 2, no such asymmetry occurs in HC. To explain this lack of asymmetry, Déprez (1999, 2001) argued that the null NumP heads of HC are internally licensed by the movement of NP to Spec NumP and provided arguments in support of internal phrasal movements in Haitian Creole nominal projections (see also Déprez (forthcoming a) for more detailed evidence for DP internal phrasal movements in all French Based Creoles). Being internally licensed, an HC null NumP needs no external licensing, hence the lack of detectible asymmetry.

Distributional asymmetries can thus not provide evidence for the presence of a null NumP head in HC. The presence of a syntactically active null determiner would nevertheless gain empirical grounds if it could be shown that, in some contexts, apparently determiner-less nominal phrases have the same syntactic effects as nominal phrases that contain overt determiners. As argued in Section 4.1.2, such conditions are observable in the predicative nominal constructions of HC. As these constructions are surely one of the clearer cases of bare nominals requiring a predicate denotation, evidence of the presence of a null head in these bare nominals can be seen as providing support for the syntactic realization of NumP.

### 4.1.1. Haitian Creole bare nominal predicative constructions

It has often been observed that in HC, predicative constructions are most commonly direct, i.e., making no use of a copula. As shown in (31), when the predicate is an adjective, an adverbial or a (locative) preposition, the presence of an element like *se, sometimes analyzed as a copula (Pompilus, 1976), is neither required, nor possible and predication must be direct.

(31) a.  \[ \text{Jan entelijan} \]  
   \[ \text{John is intelligent} \]

   \[ \text{Jan se entelijan} \]

b.  \[ \text{Jan nan lakou a} \]  
   \[ \text{John is in the courtyard} \]

   \[ \text{Jan se nan lakou a} \]

---

7 Here I am tentatively suggesting that it is the lexical feature of mass nouns that commands the singular pronominal reference.
However, when the predicate is a full noun phrase with an overt determiner, the reverse is observed. The element *se* is required and direct predication by simple juxtaposition is impossible.

(32)  
\[\begin{align*}
\text{a. } & \text{"Jan frè m} & a'. & \text{Jan se frè m} \\
& \text{John is my brother} \\
\text{b. } & \text{"Jan yon pwofesè} & b'. & \text{Jan se yon pwofesè} \\
& \text{John is a teacher} \\
\text{c. } & \text{*Jan pwofesè a} & c'. & \text{Jan se pwofesè a} \\
& \text{John is the teacher}
\end{align*}\]

Assuming this generalization to be correct (see Pompilus (1976), Damoiseau (1987) DeGraff (1992a, 1992b) for similar conclusions), the interesting question at this point is what happens in predicative sentences with bare nominals. Observe first that, in these cases, the presence of the element *se* is possible:

(33)  
\[\begin{align*}
\text{a. } & \text{Moun sa yo se dokte} \\
& \text{These people are doctors} \\
\text{b. } & \text{Chen se bet ki jape} \\
& \text{Dog is an animal that barks}
\end{align*}\]

Bare nominal predicates then clearly pattern like nominal predicates with an overt determiner in allowing the presence of *se*. This of course is entirely expected if both types of predicates have the same syntactic structure, more specifically, if both are full noun phrases with, respectively, null and overt determiners. Yet the data provided so far does not suffice to enforce this conclusion. It does not eliminate a plausible alternative account of the presence of *se* based on the nominal nature of the predicate. The presence of *se* could indeed be enforced by the syntactic category of the predicate rather than by the presence of a null determiner. That is, if *se* were obligatory with \([+N,−V]\) predicates and impossible with predicates of all other syntactic categories, the above data would also follow. As I argue below, however, there are clear empirical arguments against this categorical alternative and in favor of the null determiner approach.

To begin with, examples like (34) show that *se* can occur with certain types of prepositions, not just with nominal categories:

(34)  
\[\begin{align*}
\text{a. } & \text{li se tankou sè' m} \\
& 3rdS se like sister my \\
& \text{She is like my sister} \\
\text{b. } & \text{Tout sa se pou ou} \\
& \text{All this se for you} \\
& \text{All this is for you}
\end{align*}\]

Second and perhaps, more interestingly, *se* turns out to be optional with some predicates that are quite clearly nominal in nature.

(35)  
\[\begin{align*}
\text{a. } & \text{Jan chapantje} \\
& \text{John (is a) carpenter}
\end{align*}\]
b.  
Michel mason

Michel (is a) mason

Examples like (35) thus show clearly that the presence of *se* cannot be enforced solely on the basis of categorical information. There are some clearly [+N] predicates that do not obligatorily require it. Interestingly, the interpretation of bare nominal sentences with *se* differs from those without *se*. As noted by one of our informants, an example like (35a) without *se* is felicitously uttered in a situation where John has just become a carpenter, perhaps because he just finished school or a carpentry degree. The reading in this case is something like: John is now a carpenter, although he may not have been one before (or the speaker may not have known about it). In other words, the property of being a carpenter is located in time and is not a general identifying feature of the subject. The reverse is true of the version with *se*. A comparable interpretative difference is noted in Pompilus (1976) for examples like (36) below:

(36)  
a.  
*Nou malad*  
We are sick (presently)

b.  
*Nou se malad*

We are sick people

For the variant without *se*, Pompilus gives an adjectival and temporal interpretation. For the variant with *se* in contrast, he gives a nominal and characterizing interpretation that asserts the membership of the subject in the class of sick people. It is then interesting to note that the corresponding French translations—given by Pompilus himself and reproduced here in (36a’) and (36b’)—manifest an alternation between the presence and the absence of an overt determiner for a comparable interpretative effect. In (36a’) with no determiner, *malade* is an adjectival predicate with a temporal interpretation; in (36b’) *malade* ‘nominalized’ by the presence of an overt determiner is understood as a characterizing property.

The parallelism between French and HC bare nominal predicative sentences does not stop here. As observed by Pompilus, bare nominal predication without *se* is possible in HC only with a restricted class of nominal predicates, roughly speaking, the professional ones. With other types of nominal predicates, as in (37), the presence of *se* is strongly preferred and direct predication is judged quite poor:8

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8 These restrictions have been repeatedly noted in the literature on HC. See for instance Wingerdt-Philips (1982) among others. However, since they are not absolute, the exact nature of the predicates involved seems rather difficult to establish. What is eminently clear is that whenever a bare nominal is used without *se* it must receive a temporally bounded interpretation. The class of nominal predicates that licence the bare nominal construction is equally hard to define in French as various factors enter acceptability judgements on this type of sentences. To illustrate, although an example like (ia) is strongly excluded, (ib) with the same nominal predicate is perfectly interpretable and attested. In (ib), the use of an indefinite marker would in fact simply not make sense.

(i)  
a.  
‘Un pingouin est oiseau

A pinguin is a bird

b.  
Mon corps est oiseau

My body is bird-like

(L’amour sorcier: Claude Nougaro)

The relevant distinction closely resembles the individual level/stage level difference in its flexibility. Predicates seem lexically more prone to a given classification but they can be contextually coerced into a different one.
These restrictions, in fact, closely parallel comparable restrictions observed in French on the possible occurrence of singular nominals without determiner in predicative sentences. It is well known that in French, to be acceptable predicates in nominal predicative sentences, most types of singular nouns require the presence of an indefinite determiner as in (38a). Yet certain types of nouns, roughly speaking the so-called professional ones, can be used predicatively without a determiner as in (38b):

(38) a. Jean est un garçon
   John is a boy
b. Jean est médecin/dentiste/professeur
   John is doctor/dentist/professor

This is rather unexpected given that French quite generally disallows other uses of BN. The point of interest to us here is the great similarity between the limitations observed on bare nominal predication in French and those observed for the direct nominal predication without se in HC. Both manifest comparable interpretation and comparable restrictions on the possible types of predicates. Moreover, there is a point-by-point correspondence between the constructions that lack se in HC and those that lack an overt determiner in French and those that feature se in HC and an overt determiner in French. In this regard, the interesting meaning distinction that contrast these two types of constructions in the Haitian examples of (39) is quite telling. In (39a) with se, the predicate bèt only has a characterizing and nominal interpretation, meaning ‘animal’. Without se in constrast, bèt in (39b) only has a purely adjectival interpretation, meaning ‘stupid’.

(39) a. Élefan se bèt
   Elephants are animals
b. Élefan bèt
   Elephants (are) stupid

Strikingly this distinction is again exactly replicated in French by pairs like (40) that differ in the presence or absence of the determiner.

(40) Un éléphant est une bête  An elephant is a beast
     Un éléphant est bète    An elephant is stupid

In sum, we observe that when se is missing, HC bare nominal predicates receive an adjectival-like and temporally bounded interpretation that parallels the interpretation of
French nominal predicative sentences without determiners. In contrast, when *se* is present, HC predicates receive a nominal and identifying interpretation that parallels the French nominal predicative constructions with an overt determiner.\(^9\)

In Déprez and Vinet (1992, 1997) (hence D&V) the element *se* in HC is analyzed as a functional projection that surfaces as a last resort in a predicative projection AspP/PredP when the head position fails to be occupied by a lexical predicate. With adjectival predicative sentences such as (31) above, where *se* cannot be present, the lexical predicate comes to occupy the head of the Asp/PredP projection after movement, as in the structure (41):

\[(41) \quad \text{[IP Jan [PredP entelijan [XP t]]]}\]

When the predicate is a noun phrase with an overt determiner as in (32) above, the presence of the determiner blocks the movement of the predicate. *Se* must then surface to lexicalize Pred\(^0\).

\[(43) \quad \text{a. } \text{*[IP Jan I\(^o\) [PredP pwofesè [DP yon D\(^0\) [XP t]]]]} \]
\[(43) \quad \text{b. } \text{[IP Jan I\(^o\) [PredP se [DP yon D\(^0\) [NP pwofesè]]]]}\]

In other words, *se* must occur when the movement of a lexical predicate to the functional projection Pred is blocked by the presence of any intervening (functional) head (cf. the Head Movement Constraint), and more particularly, in the case at hand, by the presence of an overt determiner.

In light of this analysis, let us return to the case of bare nominal predicates. If their structure contains a bare NP as in (44), nothing should prevent the movement of the lexical nominal predicate into the functional head. The expectation is then that *se* should not occur since the head of the functional projection is filled.

\[(44) \quad \text{a. } \text{[IP Jan I\(^o\) [PredP chapantye [NP t]]]}\]

If on the contrary, bare nominals contain a null determiner (or null NumP) as in (45), it is plausible to think that, just like with overt determiners in HC, the movement of the predicate to the functional projection is blocked. In this case, the presence of *se* is required.

\[(45) \quad \text{a. } \text{*[IP Nou I\(^o\) [PredP chapantye [NumPNum\(^0\) [NP t]]]]} \]
\[(45) \quad \text{b. } \text{[IP Nou I\(^o\) [PredP se [NumPNum\(^0\) [NP chapantye]]]]}\]

Only this second structure can explain why *se* is allowed with bare nominals. This clearly suggests that, professional predicates aside, HC bare nominals predicates have in the general case a phonetically null determiner with the syntactic effects of an overt one,

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\(^9\) For similar observations about the distinct interpretations see among other *Bentolila* (1978) Férèrè (1974) and *Damoiseau* (1996).
namely blocking the movement of the lexical predicate to Pred0. Professional predicates, it would seem, have the option of moving directly to the Asp/Pred position. This may be attributed to their adjectival-like nature. Perhaps, as suggested by Munn and Schmitt (this volume), they have an event argument in their thematic grid. Besides accounting for the distribution of *se*, the structures (45a) and (45b) elegantly explain Pomphilus’ contrast in (36). When *se* is missing, *malad* is a bare predicate that behaves like an adjective and raises to the functional Pred head. When *se* is present, *malad* is embedded in a nominal projection with a null determiner that blocks the movement of the predicate to Pred0, enforcing the last resort presence of *se*. Given these two structures, the interpretation differences also follow. In the first case, *malad* is truly like a (stage level) adjective and is interpreted accordingly. In the second case, *malad* being dominated by a NumP is comparable to a noun, i.e., it is a “nominalized” adjective.

This account also establishes a simple and clear parallelism between HC and French. In HC as in French, the distinction between the two cases now merely boils down to the presence/absence of a determiner, the only difference being that in HC, this ‘determiner’, understood here as Num0, remains silent. Given this analysis, the above observed facts fit a rather simple generalization. In HC, *se* is absent whenever a predicate, whatever its categorial nature, can move into the head of the functional ASP/Pred projection. *Se* is required whenever an intervening determiner (or functional (Po)) head blocks this movement. This approach provides, on the one hand, an elegant account of the apparent optionality of *se* with bare nominals and on the other hand, independent evidence for the presence of a null determiner in HC bare nominals with a predicative interpretation.

A question that remains at this point is why should French nominal predicates, professional nominals apart, require the presence of an overt determiner, unlike HC? That is, assuming that NumP in French has a predicative interpretation, why is a null determiner excluded? As discussed shortly in Section 4.2 below, this question turns out to have a simple answer in the present approach, for French as well as for other þ PL languages, that is determined by the Plural Parameter.

This section discussed how the proposed model accounts for the properties of HC BN. The main characteristics of HC BN, i.e., their possible kind, existential and generic readings, their scopelessness and their under-determination for number have been shown to receive simple accounts. Furthermore, one interesting syntactic consequence of the Plural Parameter, namely that BN interpreted predicatively must project a null functional head,

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10 A question may arise as to why a nominal head could not move head to head through Num0 and then on to Pred0. There are several possible answers to this question. Recall first that in HC NP moves to Spec NumP to license the null Num head. N movement to Num0 would then have to come from a left branch. As has been argued in Déprez (forthcoming a.), moreover, there is no overt N to D movement in French based Creole DPs. Covert head movement in DP is thus all the more unlikely. Concerning predicate head movement to Pred0, V&D consider this process as similar to head movement within a VP projection (V to v) available in languages like English (Chomsky, 1999), where no other instance of head movement occurs.

11 If, in French, the copula lexicalizes T0 and not Pred0, its constant presence is expected. Movement to Pred0 may thus take place in French adjectival predicative constructions just as in HC. The presence of a lexical element in T0 moreover, can be assumed to be sufficient to prevent lexicalisation of Pred0. In HC when Tense is expressed, *se* is absent with all predicates. See Déprez and Vinet (1992, 1997) Déprez (1999, forthcoming b.) and DeGraff (1992a, 1992b) for more detailed analyses of predicative constructions in HC.
has been confirmed in a detailed study of the properties of HC bare predicate nominal constructions. The next section considers the consequence of the proposed approach for +PL languages.

4.2. BN in +PL languages

This section turns to a brief evaluation of the consequences of the proposed Plural parameter for the +PL languages. English, Italian and French are on our terms all +PL languages. Although these languages manifest a number of common properties in regard to bare nominal constructions—for instance, they all disallow singular bare nominals—they also manifest a number of well-known differences. It is the purpose of this section to discuss these similarities and differences in regards to the predictions of the present proposal.

Let us begin with the restriction against singular bare nominals. The generalization that seems most salient across English, French and Romance is that these languages all disallow singular bare nominals, arguments or predicates. This general statement surely needs some qualification, since as discussed above, French, as well as the other Romance languages, allow a restricted type of bare singular nominals in predicative positions with professional predicates. Whether this is also true of English, where the range of singular bare nominal predicates seems even more limited, is unclear to me at this point, so I will leave it aside. But the phenomenon is clearly manifest in German, as attested by (46):

(46) Johan ist Arzt
    John is doctor

As observed above, professional bare nominal predicates also seem to have a peculiar behavior in −PL languages like HC. It thus seems in other words, that these predicates have an unusual behavior in all types of languages, +PL and −PL included. I do not conjecture here as to the causes of this property, but simply assume that these constructions are in a sense orthogonal to the more important common ground discussed here, namely the absence, in ordinary cases, of singular bare nominals across the different +PL languages.

Now it is a straightforward prediction of the Plural Parameter that singular bare nominals should be ruled out quite generally in +PL languages. Let me briefly recall why, before dealing with some potential counterexamples, of which only one, namely the case of Hindi, is discussed below. Consider for instance BN in predicative positions. In the proposed approach, BN with a predicative ⟨e,t⟩ interpretation are NumP. Recall that given the Plural Parameter, NumP must project in +PL languages and contain a counter introducing a number argument that must be saturated. Assuming that in +PL languages, singular morphology, which corresponds in fact to lack of plural morphology, is not semantically represented, it turns out that in a singular NumP, the number argument will remain unsaturated. If so bare singular predicates are simply un-interpretable: They contain a variable that is unbound, namely, the number variable of the counter. It follows then that in +PL languages, singular bare nominals predicates will always require the presence of an overt determiner to be licensed, putting aside, the exceptional cases of the so-called
professional predicates. The same of course is equally true of bare singular arguments. Since for argument as well, the number argument of the counter must be saturated, either the presence of an overt determiner, or the presence of the plural morpheme is needed to satisfy this requirement. In short, in the proposed model, the plural restriction on bare nominals follows directly from the obligatory presence of the semantic counter in the projection of NumP and bare singular count nominals are ruled out because they feature an unbound variable.

Now French differs from both English and Italian in disallowing even plural bare nominals in predicate or argument positions. This more stringent restriction follows quite naturally on the proposed view if the French plural morpheme (perhaps there is none?) is assumed, in contrast with English or Italian, to fail to provide an appropriate saturation for the number argument of the NumP counter. As has been often discussed in the literature, the French morphological plural on nouns is overall quite weak, in comparison with English or Italian, having in fact almost no phonological effect, apart from a few exceptional nouns (cheval/chevaux). If plural is disqualified, the consequence will be that, in French, there is essentially only one way to saturate the number argument introduced by the NumP counter, namely through the presence of some overt determiner. It is beyond the scope of the present paper to provide a formal account of how this saturation is effected by a variety of determiners. Language specific differences may of course arise, leading to important variations in the overall resulting picture. But the consequence of the Plural Parameter is that in +PL languages, saturating the number argument must be the minimal role that any (count) determiner must fulfill in the absence of the relevant plural morphology.

Does the present approach generally predict that bare singular nominals are excluded in all +PL languages? The answer is: almost but not quite. Dayal (2001) has shown convincingly that a rather clear case of a +PL language, namely Hindi, allows bare singular arguments quite readily. However, simplifying somewhat, Dayal’s central conclusion is that Hindi bare singulars correspond to two distinct types of bare nominals, definite bare nominals and incorporated ones. Although I will not offer an account of BN in this language here, the results of Dayal’s research allow us to see how the Hindi case may in fact fit with the proposed Plural Parameter. First, it must be assumed that Hindi has a null definite determiner that is essentially equivalent to an overt one. This is, in fact, indirectly what Dayal argues for. In her view, the definite reading of a Hindi BN comes from a type shifting operation rather than from a distinct null determiner projection. Although it is clearly beyond the scope of this paper to provide empirical evidence for the existence of a separate Definite projection, I will refer the readers to works of Zamparelli (1995) and Heycock and Zamparelli (2002) as well as to the work of Lyons (1999) that provide rather convincing arguments for its existence in a variety of languages. Within the framework of the proposed model, it will then suffice to assume that this null definite determiner, like the overt one, can serve as the binder for the number argument of the counter in Hindi, thus allowing apparently bare argument nominals in a +PL language. As for the incorporated BN, the same assumption can be made. It may be that the number argument of the counter

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12 This proposal reinterprets with some differing consequences the idea that the weakness of plural morphology is responsible for the absence of bare nominals in French (Delfitto and Schroten, 1991).
comes to be saturated in this case indirectly from quantification over events. I will leave a formal approach to the present speculation for further work, my current goal being merely to suggest how an apparent counter example language like Hindi may be accommodated on the current proposal. Note finally, that in conjunction with the Plural parameter, the suggested solution for the Hindi case allows an interesting generalization with respect to +PL languages. As presently formulated, the Plural Parameter makes the strong prediction that bare singulars nominals will be found in +PL languages only if the relevant languages can be argued to have a null definite determiner.\(^\text{13}\)

Leaving now our preoccupation with number, it is time to return to more semantic considerations and to discuss how the various interpretations of bare arguments in +PL languages can be accounted for in the current approach. Let us begin by recalling the straightforward predictions of the Plural Parameter. Since NumP must obligatory project, it follows that the primary interpretation of bare nominals in +PL languages will be predicative. Here as above, I leave open how the existential and generic interpretations arise from this basic denotation, whether it is through some DKP like procedure, or through existential closure, as the current proposal does not at present directly bare on this question. The Plural Parameter, however, turns out to make a strong prediction with regards to kind readings. The prediction is as follows: The kind readings that arise in the +PL languages must be built on the predicative denotation of bare nominals. That is, although I have proposed that the basic meaning of all nouns is equivalent in all languages and denotes a kind, this meaning is only directly accessible in –PL languages, not in +PL ones, where NumP always obligatorily projects. Kind readings in +PL languages must then involve the intervention of a particular semantic operator. The prediction turns out to be correct for the Romance languages, since as has been extensively argued by Longobardi (1999) for Italian, (see also Zamparelli, 1995) and by Benedicto (1997) among others for Spanish, bare nominal arguments do not allow for a kind reading in these languages. For a kind reading to obtain, a definite determiner must be present. If this is empirically correct, then there are at least some +PL languages for which kind readings are not available with bare nominals. It is interesting to note that, to my knowledge, such a restriction has never been mentioned for any –PL language. And this is in fact a distinction that is straightforwardly predicted on the current approach. However, while the prediction has a desired result for the Romance languages, it turns out to be problematic for English. To accommodate the existence of kind readings for English bare nominals, it must be assumed, on the present view, that English licenses some particular null operator whose role is to retrieve the meaning of a kind from that of a ‘predicative’ NumP. Such an operator has, in fact, been proposed by Krifka (1995) and I reproduce his formulation below:

\[
(46) \quad \text{[NP bears]} \sigma (\lambda w \lambda x \exists n (R/T_w (x \text{BEAR}) & \text{OKU (BEAR)}(x) = n)) = 1 \quad \forall w \forall x [\exists n (R/T_w (x \text{BEAR}) & \text{OKU (BEAR)}(x) = n) \text{iff } R/T_w (x,y)]
\]

\(^{13}\) Strictly speaking, the approach allows for yet another possibility, namely the existence of a singular morpheme that has the capacity to saturate the number argument. Note that with such a morpheme, however, bare nominals should manifest the same properties as nominals with an overt singular determiner in languages like English or French. In particular, they should show the typical wide scope properties of indefinites, and not the characteristic scopelessness of bare plurals.
The unique entity y such that for all x that are realizations of the kind BEAR (in n number) in all worlds, they are realizations of the entity y

As noted by Krifka, this denotation should be identical to the kind BEAR, as any realization of the kind BEAR will be in the extension of the predicate and vice versa. Assuming that such a null operator exists, however, raises a number of delicate questions. First, it is unclear what kind of evidence could bear on its existence. If we take into consideration what this operator translates into in the other +PL languages, the most obvious answer is that it corresponds to a particular interpretation of a definite determiner. That English and Romance definite determiners have distinct meanings has been argued in Dayal (2001). Dayal has also made interesting conjectures as to why in English the plural definite determiner fails to allow for a kind reading (see also Zamparelli, 2000). One could perhaps imagine that the null operator of English is the morphological counterpart of this distinct meaning. Heycock and Zamparelli (2002) have argued for the existence of a null definite in English that can be licensed under constrained abstract movement of nominal constituents to its Specifier. It could be, modifying somewhat Longobardi’s (1994) original parametric proposal, that English has a syntactic way of licensing this null determiner that is lacking in Italian and Romance. At this point of our research, however, evidence supporting such conjectures is missing and the question thus remains open. Yet, although I will not speculate further as to why English disallows bare definite plural and allows instead bare nominals as kind referring expressions, I would just like to point out that plural morphology seems again to be an important factor here. It is well known indeed that English differs from the Romance languages with respect to its agreeing capacity in the noun phrase. In particular, although in Romance number is always marked on the determiner, sometimes redundantly, this is not the case in English. In the present context, this difference suggests an interesting generalization:

(47) Only definite determiners overtly marked for plural allow for a (plural) kind reading.

This generalization definitely seems to play a role, but at this point in our research, it remains to be understood what this role can be. I leave this question for further research.

5. Concluding remarks

This paper has explored an alternative parametric approach to derive and predict the possible meanings and distribution of bare nominals in a cross-linguistic perspective. At the heart of this proposal is the Plural Parameter, a morphological parameter that controls the syntactic presence of a functional projection for Number. The parameter distinguishes two broad types of languages, the −PL and the + PL languages, for which it makes a number of predictions that have been shown to be largely upheld across a variety of
languages for BN in argument as well as in predicative positions. The main predictions of the model are again summarized below.

1. Only $-\text{PL}$ languages allow direct access to the kind denotation of bare nouns. Thus, the kind reading is predicted to never be missing for BN in $-\text{PL}$ languages, as it is the most basic reading for BN in these languages. In $+\text{PL}$ languages in contrast, the existential and the generic readings built on a predicative NumP are the most basic ones. The kind reading, in contrast, requires the presence of a particular operator and could well be missing for bare nominals in $+\text{PL}$ languages.

2. Only the $-\text{PL}$ languages can have bare nominals that are underspecified for number and thus compatible with either a plural or a singular reading depending on contextual factors. In $+\text{PL}$ languages, in the absence of relevant morphology, bare ‘singular’ nominals—i.e., nominals whose NumP contains an unsaturated number argument—will be excluded. This should be true in both argument and predicative positions. Bare singulars can nonetheless be allowed in $+\text{PL}$ languages, if relevant morphology is present. For instance, a language can feature a null definite determiner that like an overt one can saturate the number argument. Singular BN in this case will manifest distinct properties allowing definite readings and other readings built on definite denotations (see Dayal, 2001) but not the generalized existential and generic readings found commonly with plural BN. Conversely, there can also be $+\text{PL}$ languages in which the plural morphology fails to appropriately saturate the number argument, as in French. In such cases, bare nominals will be largely excluded, and determiners always required to saturate the number argument contained in the obliquely projected NumP.

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