This paper presents a syntactic analysis of numeral classifiers using Thai as the language under investigation. It is assumed that bare nouns in classifier languages refer to kinds (Chierchia, 1998). Because bare nouns are kinds, they are not referential. In this paper, I argue that classifiers are pronouns and have the feature [referential] and therefore, are required for noun phrases in referential contexts. Assuming Dechaine and Wiltschko (2002)'s analysis on pronouns, I propose that a classifier is a pro- \( \varphi P \) modified by the noun that appears in the specifier. Evidence comes from the fact that a classifier can appear by itself without a noun and that a classifier is obligatory while a noun is optional in a referential context. The pronominal analysis explains the facts observed in Thai such as word order, singularity and referentiality of an NP containing a classifier and how a classifier affects the scope reading of an NP. This analysis is extended to all languages with numeral classifiers.

1. Introduction

Many languages use a word category called ‘classifier’ to classify nouns in quantified contexts such as in counting. In Chinese, to say ‘three horses’, a classifier for animals \( \pi \) is inserted between the numeral \( \text{san} \) ‘three’ and \( \text{ma} \) ‘horse’, hence \( \text{san} \pi \text{ma} \) ‘three horses’. Classifiers vary according to the animacy, shape and function of the noun they classify. To count an inanimate object with long thin shape, the classifier is different from that of an inanimate object with round shape and so on.

The scope of this paper is within the syntactic structure of numeral classifiers, i.e. those obligatory with numerals. An example of Thai numeral classifiers is provided in (1):
The word order of Thai quantified phrases is Noun-Numeral-Classifier. In Vietnamese, Burmese and Chinese, it is Numeral-Classifier-Noun. The different word orders are assumed to be the result of noun movement from the lower position to the initial position in Thai (Simpson, 2005). There are two structures proposed in the literature which mostly account for Chinese word order. In the first structure, the classifier projects below NumeP and above NP (Cheng and Sybesma, 1999, 2005, Borer, 2005, Simpson, 2005). The highest projection is DP. I will call this the ‘DP-projection’ approach. In the second structure, the numeral and classifier form a predicate of the noun which is the subject of a small clause (Tang, 1996). I will call this the ‘small clause’ approach. The two structures are illustrated below:

The ‘DP-projection’ approach postulates that D-Num-CL-N form one constituent while the ‘Small clause’ approach postulates that the head noun forms a different constituent from the numeral and classifier. The DP-projection approach requires movement of the noun phrase to account for Thai data. I argue for the non-movement approach such as
(3); however, I reject that the noun and the numeral and classifier are in a subject-predicate relation. The purpose of this paper is to propose another structure, which I call the ‘Pronominal’ approach, shown in (4).

(4) ‘Pronominal’ approach

(5) maa sɔŋ tua
dog two CL
‘two dogs’

Assuming that pronouns are not primitives (Dechaine and Wiltchko, 2002), the numeral classifier is an example of a \( \varphi \)-phrase. It is neither D nor N. It encodes gender and number. This will be further discussed in section 4.3.

Before we proceed with the syntactic account of the numeral classifier, I will briefly discuss the semantics assumed in this work. Why a language possesses classifiers can be explained with Chierchia’s analysis. According to Chierchia (1998), nouns in a classifier language refer to kinds. Let us assume that common nouns such as ‘table’, ‘foot’, ‘cat’ may refer to either kinds or individuals. A kind refers to the totality of its instances. Thus, the dog-kind is represented with the totality of dogs. An individual refers to an instance of the kind. Hence, an individual dog has properties corresponding to the dog-kind. In the language where bare common nouns refer to kinds, the word
‘dog’ would refer to the kind of domestic furry animals with four legs. On the other hand, in the language where bare common nouns refer to individuals, the word ‘dog’ would refer to an animal having (all) dog-like features. However, Chierchia did not explain how a kind noun is shifted to an individual. Therefore, I propose that the classifier serves this function: it shifts a kind into an individual. Following Chierchia (1998), I assume that common nouns in classifier languages refer to kinds. I further propose that in order to make kinds referential, a classifier is required. Below are the hypotheses of this paper:

1. The syntax of a classifier is that of pro-ϕP.

2. Classifiers are referential whereas bare nouns are kinds.

\[
\begin{array}{c}
\text{Noun} \\
\text{NP} \\
\text{[kind]} \\
\phi \\
\text{CL}_{\text{[referential]}} \\
\text{Ø}
\end{array}
\]

Evidence that classifiers are pro-ϕP comes from the fact that classifiers must agree with the noun’s gender\(^1\), can occur by themselves and can be bound outside local. Although only Thai data are discussed here, the analysis is extended to all numeral classifier languages.

Section 2 discusses Thai morphology and the nature and functions of classifiers. Section 3 presents previous analyses of numeral classifiers. The analyses considered here are Borer (2005), Chierchia (1998) and Cheng and Sybesma (2005). The syntactic analysis of classifier phrases is proposed in section 4. Section 5 concludes the paper.

2. Thai classifiers

In this section, we will discuss Thai morphology, the interpretations of bare nominals, the nature of classifiers and their functions.

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\(^{1}\) Gender here refers to physical properties or semantic features of that noun such as its shape, function or animacy.
2.1 Thai morphology

Thai is an analytic language. It does not employ person or number agreement or a case system. To form a question, a particle is added at the end of the sentence and no wh-movement takes place. Thai has no tense markers and uses only aspect words to indicate temporal meaning.

2.2 Thai nominals

As proposed by Chierchia (1998), bare common nouns in a classifier language represent kinds. Kinds have no reference. Thai bare nouns have a generic reading in most cases.

(6) kamlaŋ ̄ kin ̄ khaaw yuu
    PROG eat  rice  PROG
    ‘I am eating rice’ (*I am eating this rice)

(7) nok  bin  daaj
    bird  fly  POSS
    ‘Birds can fly’ (*This bird can fly)

A bare noun in Thai can be referential only when it is the subject of a stage-level predicate. According to Carlson (1977), the interpretations of English bare plurals as generic or specific depend on the types of predicate they appear with. Carlson proposes three types of predicates: individual-level, stage-level and kind-level. Stage-level predicates are true of a temporal stage of its subject. They can be modified by temporal adverbs. For example,

(8) Stage-level Predicate:
    White-coloured elephants raised a lot of curiosity in the past. (Longobardi, 1994)
In (8), ‘raised a lot of curiosity’ is the predicate of ‘white-coloured elephants’. In this case the bare plural ‘white-coloured elephants’ has a referential reading.

Second, individual-level predicates are true throughout the existence of an individual. An example is provided below:

(9) Individual-level Predicate:
Watchdogs of large size are more efficient.

In (9), ‘are more efficient’ is the predicate that is true of ‘watchdogs of large size’ regardless of temporal period. In this case the bare plural ‘watchdogs of large size’ has a generic reading.

The last type of predicate is kind-level predicates which are true of a kind of thing and cannot be applied to individual members of the kind. Bare plurals in this case must have a kind reading.

(10) Kind-level predicate
Dinosaurs are extinct.

In this case, ‘dinosaurs’ has a kind reading.

Thai bare common nouns in subject position behave like English bare plural nouns in that they are referential when co-occur with a stage-level predicate. An example is provided below:

(11)  สวับ สายงุ้ย ยัง
shirt  dry    Q  yet
‘Is the shirt dry yet? (or Are the shirts dry yet?)

With other types of predicate, nominals have kind or generic interpretation, as shown below:
In (12), *maa* ‘dog’ has a kind reading as all dogs are mammals. In (13), *rot* ‘car’ has a generic reading as cars in general are expensive (but not all cars are expensive). To shift a nominal from kinds to individuals, a classifier is necessary. For example, if one wants to say that a particular car is expensive, certainly the sentence (13) cannot be used. A classifier must be inserted between the nominal and a demonstrative, as in (14).

We can also say *rot nan* (car-DEM) but the number is neutralized. It can mean ‘that car’ or ‘those cars’. To specifically refer to an individual car, a classifier is necessary.

Bach (1989) proposes that nominals in a classifier language cover both atomic and non-atomic individuals. Chierchia (1998) contends that they refer to kinds while Borer (2005) maintains that they are mass. All these accounts assume that bare nouns in a classifier language cannot be counted directly. Therefore, a nominal calls for a classifier whenever an individual is being referred to. Let us now turn to the properties of classifiers.
2.3 Nature of classifiers

This paper only deals with the classifier proper, i.e. those required for count nouns. We will disregard the partitives and measure words. The reason is because a partitive or measure word is syntactically required for mass nouns. I use the term ‘partitive’ to cover different types of words that appear in a quantified phrase and take the same slot as the classifier. These words are measure words, partitives, collective nouns and type-denoting nouns. Measure words are those that denote the quantity or the amount of the noun such as ‘a kilo of meat’, ‘an inch of hair’, ‘a pound of grapes’. Partitives are words that denote a portion of the noun such as ‘a plate of the rice’, ‘a spoon of the sugar’, ‘a cup of the coffee’. Collective nouns denote a group of the noun such as ‘a school of fish’, ‘a flock of geese’, ‘a pride of lions’. Finally, type-denoting words are those that denote types such as ‘a type of leather’, ‘a kind of salt’.

In this section, I will demonstrate that the partitives and the classifiers behave differently and should not be treated the same way. First, classifiers can function as a pronoun while a partitive cannot. An example of pronominal classifiers is illustrated in (15) and (16):

(15)  a.  khɔɔ  sɔø  pakkaa  noi
       request  buy  pen  a little$^2$
       ‘Can I buy some pens?’

       b. ʔ ao  kii  daam
       take  how many  CL:handle
       ‘How many (pen) would you like?’

(16)  raw  chɔɔp  baan  lang  nan  mai.chai  lang  nii
       we  like  house  CL  that  not  CL  this
       ‘We like that house not this one’

$^2$ noi ‘a little’ does not modify the noun but modifies the whole phrase. It is part of politeness marking when requesting someone to do something.
A partitive, however, cannot function as a pronoun substituting the content. It can only refer to the container or the quantity.

(17) a. khɔɔ sɔɔ naam nɔi
request buy water a little
‘Can I buy some water?’
b. ?ao kii khuat / lit
take how many bottle / liter
‘How many bottles/ liter would you like?
(Not how much water would you like)

A classifier is used as a pronoun replacing the noun whereas a partitive and a measure word refer to the container or quantity when stand alone. Moreover, a classifier does not add extra meaning to the noun phrase while a partitive adds the meaning of ‘quantity’.

Classifiers behave somewhat like gender or noun classification because they classify nouns according to their animacy, function or shape. A classifier is usually a lexical noun, for example:

(18) tua N. ‘body’ CL. classifier for animals, clothing and some objects
baj N. ‘leaf’ CL. classifier for leaves, hats, bags and containers
khon N. ‘human’ CL. classifier for humans
sen N. ‘line’ CL. classifier for stringy objects

The Thai classifier classifies nouns into animate and inanimate. Among animates, human and non-human have distinct classifiers. Among inanimates, things are classified according to their physical properties. Some nouns do not have physical properties, such as thought, love, life, religion, etc. These nouns repeat themselves as classifier.
Classifiers are obligatory in a quantified noun phrase. They can be realized in two different ways: one describes the properties of the nouns and the other does not. The latter is realized as repeaters in Thai\(^3\). Certain nouns, however, do not require a classifier and can be directly combined with a numeral. I call this type of nouns unit nouns.\(^4\) Examples are day, month, week, round, dollar, time, etc. As mentioned before, I will not discuss mass nouns since they do not require a classifier but a partitive. The examples of each noun type are provided below:

(19) a. Nouns with physical properties:

```plaintext
baan sọŋ lanŋ
house two CL:construction
‘two houses’
```

b. Abstract nouns:

```plaintext
pratheet sọŋ pratheet (or sọŋ pratheet)
country two CL.repeater
‘two countries’
```

c. Unit nouns:

```plaintext
sọŋ wan
two day
‘two days’
```

In (19a), the noun ‘house’ is classifiable and thus combines with the classifier ‘lanŋ’, which is a classifier for buildings. In (19b), the noun ‘country’ cannot be classified by any classifiers whether it means a nation or a territory. However, the noun cannot be directly counted and must repeat itself in the classifier slot. In this case, the first noun may be omitted for convenience. To say ‘two countries’, it is possible to say both `pratheet sọŋ pratheet` and `sọŋ pratheet`. Finally, the noun ‘day’ in (19c) does not require

---

\(^3\) In other languages, a generic classifier is used for nouns that do not have salient physical properties.

\(^4\) Another possibility is that these words are actually classifiers. There is no evidence for this assumption so I prefer to treat unit nouns as nominals.
a classifier and appears in the classifier position because it is ready to be counted since the noun itself represents a unit.

### 2.4 Functions of classifiers

As shown in the literature, a classifier is obligatory in a quantified phrase because it provides a unit or atom to be counted. In Thai, a classifier seems to play more than the individuating role. It renders the noun phrase specific and singular. Consider the following pairs of sentences. On the left hand side, a bare noun combines with a modifier directly while on the right hand side, a classifier is inserted between the noun and the modifier.

<table>
<thead>
<tr>
<th>NP without classifier</th>
<th>NP with classifier</th>
</tr>
</thead>
<tbody>
<tr>
<td>(20) N + A</td>
<td></td>
</tr>
<tr>
<td>a. rot mai</td>
<td>b. rot khan mai</td>
</tr>
<tr>
<td>car new</td>
<td>car CL new</td>
</tr>
<tr>
<td>‘new car(s)’</td>
<td>‘the new car’</td>
</tr>
<tr>
<td>(21) N + RC</td>
<td></td>
</tr>
<tr>
<td>a. rot thii coot naa baan</td>
<td>b. rot khan thii coot naa baan</td>
</tr>
<tr>
<td>car that park front house</td>
<td>car CL that park front house</td>
</tr>
<tr>
<td>‘car(s) that is/are parked in front of the house’</td>
<td>‘the car parked in front of the house’</td>
</tr>
<tr>
<td>(22) N + Dem</td>
<td></td>
</tr>
<tr>
<td>a. rot nan</td>
<td>b. rot khan nan</td>
</tr>
<tr>
<td>car that</td>
<td>car CL that</td>
</tr>
<tr>
<td>‘that car/those cars’</td>
<td>‘that specific car’</td>
</tr>
</tbody>
</table>

I claim that Thai classifiers serve four functions: individuation, referentiality, scope and pronominal. Individuation has already been discussed in the previous section. Let us now consider the other three functions of the classifiers.
2.4.1 CL makes nouns referential

A classifier intervening between a noun and a modifying adjective makes the noun referential. Without a classifier, the NP is generic.

(23) maa sii.khaaw rakhaa phæŋ
dog white cost expensive
‘White dogs are expensive’

(24) maa tua sii.khaaw rakhaa phæŋ
dog CL white cost expensive
‘The white dog is expensive’

When a bare noun appears in subject position, it is referential if it is the subject of a stage-level predicate. In (23), the predicate ‘cost expensive’ is an individual-level predicate; therefore, the subject maa ‘dog’ has a generic interpretation. In (24), the classifier ‘tua’ turns NP ‘white dog’ from kind to individual and the whole phrase has a singular interpretation. Under our approach, the classifier has this function because it is a pronominal and has the feature [referential]. It will be shown in what follows that the classifier is in fact the head of the constituent ‘dog-CL-white’, for which the interpretation would be ‘the white animal of the dog-kind’.

2.4.2 CL can be used as a pronominal

A classifier can be used as a pronominal, equivalent to English ‘one’. It combines with all the elements that usually modify a nominal such as numerals, quantifiers, demonstratives, relative clauses and adjectives.
The word ?an is a classifier and not a nominal. It refers to small objects with no classifiers assigned to them and can be considered a generic classifier for inanimate objects. It does not have a meaning of its own.

A discourse cannot start with a classifier. The sentence (26) is ungrammatical, if it is stated for the first time with no objects near sight and the speaker says this without pointing to anything. In order for the sentence to be interpretable, we must know what ‘ʔan’ refers to.

(26) *ʔan khɔŋ rao
CL of 1.plural
‘our one’

Under our approach, it will be shown that this is not a case of NP-floating or discontinuity in which the noun moves out of NP but it is the case of a classifier functioning as a pronoun.

2.4.3 CL changes the scope of the modifier

A classifier affects the scope reading of the element it precedes. Consider the examples (27) and (28) below:

(27) chan chop maa sii.khaaw tua nan
I like dog white CL that
‘I like that white dog’ (Only one dog is present)

(28) chan chop maa tua sii.khaaw nan
I like dog CL white that
‘I like that white dog’ (Among a colourful group of dogs)
In (27) and (28) if we disregard the elements preceding the classifier, what is left is ‘that CL’ in (27) versus ‘that white CL’ in (28). The difference is in the interpretation: In (27) the classifier refers to the only dog present and it happens to be of the white dog-kind whereas the classifier in (28) refers to the white dog among colourful dog-kind.

Before a new structure is proposed, let us discuss some of the previous analyses on numeral classifiers and why they are rejected in the present work.

3. Previous analyses on numeral classifiers

In this section, three analyses on classifiers are discussed: Borer (2005), Chierchia (1998) and Cheng and Sybesma (2005). Each account has its own strengths and disadvantages which will be discussed below.

3.1 Classifiers and number marking: Borer (2005)

Borer proposes that all nouns in all languages are mass. A word or lexeme is simply a pair of sound and meaning that lacks any grammatical specifications such as its lexical category (noun or verb) or functional category (mass or count). The word ‘cat’ is a noun if embedded in a DP but a proper name if embedded in an NP without a further D projection, for example ‘Cat came’. It can also be verbalized if embedded in a VP, for example ‘When an anchor is raised to the Cat Head, it is catted’. The word ‘wine’ is mass if embedded in a DP without a #P (Number Phrase), for example ‘I like red wine’, but count when embedded within a #P, for example: ‘I would like three wines’. Borer proposes a structure whereby the classifier phrase (ClP) is the location for the classifier and the plural morpheme. Classifiers and number marking have the same function: individuating nouns or making nouns countable. Her motivation comes from the fact that the classifier and plural marking are in complementary distribution. Both serve as the individuating device of nouns which are assumed to be mass in all languages.
The problem with her analysis is that in a language where both classifiers and plural marking are present, though both are in complementary distribution, they can both be absent from the structure. See the examples from Armenian in (29).

(29) a. Yergu hovanoc uni-m
two umbrella have-1sg
‘I have two umbrellas’
b. Yergu **had** hovanoc uni-m (Classifier)
two CL umbrella have-1sg
‘I have two umbrellas’
c. Yergu **hovanoc-ner** uni-m (Plural marking)
two umbrella-PL have-1sg
‘I have two umbrellas’ (Borer, 2005, p.94)

If a classifier and plural marking individuate mass, how can (29) be possible within the same language? Let us look at another approach proposed in Chierchia (1998).

3.2 Classifiers and kinds: Chierchia (1998)

Chierchia proposes that in a language where nominals are parameterized to be argumental instead of predicative, the nominals represent kinds. This parameter setting allows bare nouns to appear in an argument position without a determiner. This is why a language like Chinese lacks not only an article but also plural marking. Since kinds are mass, they require a classifier instead of plural marking.

Chierchia’s analysis is subject to a few criticisms partly because he treats mass nouns as being inherently plural. It has been shown in many works that mass nouns and plurals behave differently (such as Compton 2004, Mathieu, 2007). Another problem with this analysis is found in the type-shifting operation that Chierchia assumes (see more detail in Borer, 2005). The system seems to lack an explanation on how a kind is shifted to be an individual.
3.3 Classifiers and indefiniteness: Cheng and Sybesma (2005)

Cheng and Sybesma examine four varieties of Chinese for the interpretation of bare nouns, nouns preceded by a classifier and nouns preceded by a numeral and classifier. They found that bare nouns are interpreted as generic or specific while nouns co-occurring with classifiers are indefinite. They claim that having a classifier is just a property of Chinese to name the unit of a noun.

“Languages like Chinese need a counter for both noun categories (mass and count – author); it simply is a property of these languages that they cannot count anything without the intervention of a counter.” (page 273)

Cheng and Sybesma contend that Chinese nouns refer to concepts and that classifiers function as deictic. Therefore, under their approach, a classifier has the same function as a determiner and it also marks number. They conclude that the parameters are set such that for languages that employ articles, the definite is derived from the indefinite. For languages that employ classifiers, the indefinite is derived from the definite. They propose two structures to account for different interpretations of an NP and the co-occurrence with the numeral and classifiers in four varieties of Chinese.

(30) Indefinite NumP (Num-Cl-NPs, Cl-NP and bare NP)

```
san  ge  ren  ‘three people’
three  CL  person
```

```
   NumP
  /   \   
 Num   ClP
   / \  /   
 san Cl Cl
  /   \      
 ge   NP   
      /   
     ren
```
If we assume the structure in (30) and (31), we must posit null elements under Nume and Cl for indefinite bare nouns, a rather ad hoc solution.

In this section, I have discussed the previous analyses and rejected the structures proposed thus far. The only account assumed in this work is Chierchia’s proposal that nouns are kinds in a classifier language. In the following section, I propose a structure that not only accounts for the interpretation of the classifiers but also explains why nominals can be absent from a classifier phrase.

4. The syntax of Thai classifier phrases

In this section I propose a structure to account for different functions of classifiers in Thai. First I will present the surface order for Thai nominal phrases. Then I will discuss a structure proposed by Simpson (2005) on Thai classifiers and will demonstrate that his structure encounters some problems. Then I will propose a new structure and apply this structure to different types of classifier phrases and languages.

4.1 Surface order

In this section, I will discuss Thai nominal phrases and the distribution of classifiers within an NP. The Thai NP is noun-initial: the noun precedes all other elements. The basic word order of an NP is as follows:
Basic word order in Thai NPs
Noun > Adjective > Relative clause > Quantifier > Numeral > Classifier > Demonstrative

An example of a nominal phrase with all the above elements is provided below:

(33) rot
Adj
RC
Q
Car new.new comp park front house all ten CL that
‘all those ten new cars that are parked in front of the house’

The elements in the square brackets can be switched around depending on which element is in focus.

(34) RC in focus:
rot
RC
Adj
Q
Car comp. park front house CL new.new all ten CL that
‘the cars that are parked in front of the house, all those new ten’

(35) Quantity in focus:
rot
Q
RC
Adj
Car all ten CL comp. new.new comp. park front house that
‘the cars, all ten, that are new, those that are parked in front of the house’

(36) Demonstrative in focus:
rot
Demonstrative in focus:
rot
RC
RC
Q
Car that comp. new.new comp. park front house all ten CL
‘those cars that are new, that are parked in front of the house, all ten’

From (34) to (36), we see that the constituents are basically not fixed and any element can be fronted when focused. However, it cannot go past the head noun. Without any focused element, the default order is (32). Notice that when the adjective appears in a
non-canonical position (non-adjacent to the head noun) as in (34-36), it must be preceded by a classifier or a complementizer. A classifier is obligatory in a quantified phrase, either headed by a quantifier or a numeral. The only constant constituents are the noun which must be in initial position and the classifier immediately following the numeral.

When an adjective, a relative clause and a demonstrative appear together, the most natural place for a classifier to appear is before the demonstrative; otherwise, the classifier appears before the focused element. It can also appear in front of all three elements or does not appear at all:


(38) rot (khan) mai (khan) thii cōt naa baan khan nan
car (CL) new (CL) conj park front house CL that
‘that new car that is parked in front of the house’

Under our analysis, (38) is considered to contain several pro-φPs. Let us now consider the structure proposed in Simpson (2005) for Thai classifiers.

4.2 Previous structure (Simpson, 2005)

Simpson (2005) assumes that the order N-Num-CL derives from Num-CL-N and that NP is fronted. He further proposes that the motivation for N-fronting is for focusing purposes. This order, he claims, is an option for languages that possess the basic order Num-CL-N. Simpson’s derivation is illustrated in (40-41):

(39) baan sɔŋ laŋ nii ‘these two houses’
    house two CL Dem
According to Simpson, (40) is the underlying structure for Thai nominal phrases. A roll-up movement applies which makes NP raise to Spec NumEP. Then NumEP raises to Spec-DP, yielding the surface order in (39).

Although this structure can explain the different word order in different languages, it faces two problems. First, it does not account for why the nominal skip Spec ClP and raises directly to NumEP, yielding N-Num-CL instead of N-Cl-Num had the snow-ball movement applied. Second, we have no reasons why a nominal can be extracted out of the structure if it is the dependent of DP. An example is illustrated below:

(42) a.  mae sua sua maa song tua
    mother buy shirt ASP two CL
    ‘Mom bought two shirts’
In (42a), the noun сут ‘shirt’ is extracted out of the sequence N-Num-CL and in (42b) it is absent altogether. If we assume Simpson’s structure, there is no reason why the noun must move out of the nominal domain and why a classifier can appear by itself. These problems lead to a reanalysis of the classifier itself. A new analysis is proposed in what follows.

4.3 Proposed structure

As put forth in the introduction, common nouns in Thai refer to kinds and cannot appear in the individual context. Classifiers, on the other hand, are referential. The difference between nominals and classifiers are summarized below:

(41)  Noun  Classifier
    NP  pro-ØP
    |    |
    N  Ø  NP
    |    |
    [kind] CL  Ø
    [referential]

Dechaine and Wiltchko (2002) claim that the different behaviour of pronouns in different languages results from their different status. They propose that pronouns are not primitives and can have in three syntactic structures: pro-DP, pro-ØP and pro-NP. Pro-DP has the syntax of DP. It is restricted to argument positions. DPs are definite and function as R-expressions. An example of pro-DP is found in Halkomelem. The second type is pro-ØP. It has neither DP nor NP syntax. It can be both argument and predicate and its binding property is variable or “Condition B pronouns”. Shuswap demonstrates a language with pro-ØP pronouns. The last type of pronouns is pro-NP. Pro-NP has the
syntax of lexical nouns. It occurs in predicate positions. An example is Japanese kare ‘he’. Since I argue that classifiers are pronouns that have the pro-φP structure, we will only consider this structure.

Pro-φP has neither D syntax nor N syntax. They can be predicates or arguments. They act like Condition B pronouns in that they can be bound outside their local domain and they can function as bound variables.

The reason why I propose that classifiers are pro-φP is because first, classifiers agree with the gender of the noun they appear with. Second, they are in complementary distribution with number marking. That means classifiers appear in the same location as plural marking where gender and number are encoded. Third, the null NP can be filled with a noun to form a compound, for example:

(42) maa สาน tua
dog two CL
‘two dogs’
CL + N → tua-maa  ‘dog body’

(43) phom สาน sen
hair two strand
‘two strands of hair’
CL + N → sen-phom  ‘hair strand’

As for the noun, I propose that it appears in the Spec pro-φP. It serves as a non-restrictive modifier of the φP. This explains why the noun can be deleted after the classifier is modified. Below is the proposed structure for Thai classifiers:
With this structure, I assume that the initial NP is a non-restrictive modifier, as in ‘Lidia’ in ‘my friend, Lidia’ where ‘Lidia’ adds extra information that does not change the meaning of the element it modifies. Appositives are considered adjuncts (Jackendoff, 1977). In contrast to what have been assumed so far, I propose that the NP modifies the classifier phrase. It does not change the meaning of the classifier, but simply clarifies what the classifier is about. For example, *maa saam tua* (dog-three-CL) under our approach would mean ‘three animals of dog-kind’. *maa tua sii.khaaw* (dog-CL-white) means ‘the white animal of dog-kind’. The elements preceding the pro-φP such as the kind-noun and numerals are modifiers of the pro-φP and therefore appear to the left of the head. The elements following the pro-φP such as adjectives, demonstratives and relative clauses are predicates and therefore appear to the right of the head. The feature [referential] makes it individual. Cowper and Hall (2007) also propose a similar structure
for a phrase like ‘we linguists’. They propose that ‘linguists’ is a modifier of the pronoun ‘we’. The predicate DP ‘linguists’ “serves to pick out a sub-individual of the plural individual denoted by the $\varphi P$ itself” (page 14).

This structure has two advantages over the ones proposed so far. First, it explains why a classifier must agree with the noun it occurs with. Since a classifier generates in $\varphi P$ where gender and number is located, it must agree with the gender of the noun. Second, we can explain the complementary distribution between the plural marking and classifiers. $\varphi P$ can be realized as a plural morpheme or a classifier.

There is however a problem with this configuration. If we assume that the initial NP is an appositive or adjunct, why is it necessary for the interpretation and selection of the classifier? One way to solve this is to posit that the antecedent of the pronoun classifier is in the adjunct.

As for the variety in word order, I propose that because the NP is in the adjunct, it may appear to the left or to the right of the $\varphi P$, depending on language-specific criteria. In Thai, adjuncts are adjoined to the left of the classifier. In Mandarin, the adjunct NP is adjoined to the right of the classifier, as shown in (46):

(46)  Mandarin word order: Num-CL-N
      san   ben   shu
      three CL   book
      ‘three books’   (Cheng and Sybesma, 2005, p.276)

With the structures proposed in (44), we are now ready to derive the nominal phrases containing a classifier in Thai.

4.4 Analysis

In this section, I will apply the structure proposed in (44) to different phrases containing classifiers. These are quantified phrases, demonstrative phrases and adjective phrases.
4.4.1 Quantified phrases

Let us consider the occurrence of a classifier with different types of nouns: classifiable nouns (47), unclassifiable nouns (48) and unit nouns (49).

(47) baan sɔŋ laŋ ‘two houses’

house two CL

Now, let us turn to unclassifiable nouns such as ‘country’.

(48) (prath eet) sɔŋ prathleet ‘two countries’

country two country

I assume that no lexical items can be inserted under φ because ‘country’ has no physical properties. The noun needs to be referential and therefore, appears in the lower NP to receive the feature [referential] from the φ head. The noun is then repeated and the noun in the adjunct can be deleted.

As for unit nouns, they also appear under NP complement of φP because they are assumed to be referential by nature.
(49)  s<dyn wan  ‘two days’  *wan s<dyn wan (day-two-day)

two  day

ϕP

Nume

ϕP

s<dyn  ϕ[ref] NP

ϕ  wan

4.4.2 Demonstrative phrases

The second context is the demonstrative. Bare NPs of any type may co-occur
with a demonstrative without a classifier such as baan nii (house-DEM) ‘this house’,
khon nii (person-DEM) ‘this person’, høng nii (room-DEM) ‘this room’. I will call the
demonstrative deictic from now on because they do not behave like a determiner but
rather like a noun as it can appear on its own, illustrated in (50):

(50) yaak daai nuun yaak daai nii
    want have those want have these
    ‘to want everything’ (expression)

The deictic element’s number is ambiguous, as shown in (51). The structure of an NP
with a demonstrative is given below:

(51) baan nii  ‘this/these house(s)’
    house  this

NP

N  Pred-DemP

baan  Dem

nii
In (51), the deictic *nii* ‘this’ is the predicate of the noun *baan* ‘house’. The interpretation is as follows ‘an immediate entity (or entities) corresponding to the house-kind’.

A classifier can intervene between the noun and the deictic, as shown in (52). When a classifier is present, it indicates that the referent is singular.

\[(52)\] baan lang nii ‘this house’

```
NP[kind]  φP
  baan    φ[ref] NP
     lang    N Pred-DemP
        φ    nii
```

For an unclassifiable noun, the noun appears under NP and φ is empty because nothing can be inserted when the physical properties are not available. The modifier NP can also be omitted because it is repeated. The deletion is assumed to take place in PF. (53) illustrates the unclassifiable noun co-occurring with a demonstrative.

\[(53)\] (høñ) høñ nii ‘this room’

```
pro-φP
  (NP)[kind] φP
       høñ    φ[ref] NP
          φ    N Pred-DemP
      høñ        nii
```
As for unit nouns, they can combine freely with a demonstrative such as *wan nii* (day-this) ‘today’. We will now turn our attention to the sequence Noun-Classifier-Adjective.

### 4.4.3 Adjective phrases

When a bare noun co-occurs with an adjective, its interpretation is ambiguous as it can refer to kinds or individuals. The number is also ambiguous. It can be interpreted as singular or plural. An example is given in (54).

(54)  
\[
\text{baan yai} \quad \text{‘big house’}
\]

\[
\text{house} \quad \text{big}
\]

*baan yai* means big houses in general. But if it is the subject of a stage-level predicate, it can refer to a particular big house. However, when a classifier is present, the NP is singular and referential: *baan lang yai* ‘the big house’. This is due to the fact that the classifier is referential and has a singular interpretation by default.

(55)  
\[
\text{baan lang yai} \quad \text{‘the big house’}
\]

\[
\text{house} \quad \text{CL} \quad \text{big}
\]
Considering other types of nouns, we find that the unclassifiable nouns and unit nouns do not require a classifier when modified by an adjective. This is shown in (56) and (57):

(56) ห้อง ยัย  ‘big rooms / the big room’
       room  big

(57) วัน ต่อมา  ‘the next day’ (*next days)
       day  next

There is no distinction between ‘a big room’ and ‘the big room’ in Thai. This might be due to the type of nouns itself that is usually referential. ‘room’ refers to a place not a thing. As well, ‘day’ cannot refer to kinds but a specific time. These nouns are referential and need no classifiers to make them referential any further.

When all elements appear together, the basic surface order is as follows:

Noun > Adjective > Numeral > Classifier > Demonstrative

(58) รถ ใหม่ สาม คัน นั้น
       car  new  three  CL  that
       ‘those three new cars’
The head of this string is the classifier. It is modified by a noun phrase and a numeral phrase and predicated by a demonstrative. The interpretation of (58) is ‘those three vehicles of the new car-kind’.

In the next section, I will apply the pronominal analysis to a phenomenon that looks like a discontinuous NP observed in Thai.

4.4.4 Discontinuous NPs

One intriguing property of Thai NPs is that the noun can be separated from other elements. It appears to be ‘extracted’ out of the classifier phrase. Consider the example in (59):

\[(59) \quad \text{mae sʉʉ sʉ a maa sʉʉ tua}\]
\[
\text{mother buy shirt ASP two CL}
\]

‘Mom bought two shirts’

It seems like the NP sʉa ‘shirt’ is incorporated to the VP sʉʉ ‘buy’. The elements that can intervene between NP and NumP are usually aspect words such as maa (perfective), pai (perfective), yuu (progressive). It might be that the NP originates in the Spec pro-NP as a modifier. Because it is the modifier, it can move out of pro-NP to join VP as noun incorporation.

Derivation 1

\[
\begin{array}{c}
\text{pro-φP} \\
\text{NP} \\
\text{sʉa} \quad \text{NumP} \\
\text{‘shirt’} \\
\text{sʉʉ} \quad \varnothing \quad \text{NP} \\
\text{‘two’} \\
\text{tua} \\
\end{array}
\]
After noun incorporation, the elements under V (verb + object) raise to Spec-IP and results in word order in (59). The reason why noun incorporation is a possibility is because the noun object appears adjacent to the verb. This is merely a speculation. Noun incorporation has never been recorded in Thai. It would be interesting to look into this more deeply in the future.

5. Conclusion

In this paper, I have assumed Chierchia’s analysis in that a classifier is necessary for a language in which nouns refer to kinds. I have proposed that numeral classifiers are best represented by the pronominal approach. Classifiers are pro-φP. They are required in a referential context. Nouns in classifier languages cannot refer to individuals because they refer to kinds. This analysis captures the facts observed in Thai such as scope reading, referentiality and word order. Moreover, it offers an explanation why a classifier must classify and why number marking and classifiers are in complementary distribution.

As for the surface word order, Thai nominals are always in the initial position due to the language-specific requirement that the adjunct nominal must precede the pronominal. The element in the adjunct can be omitted or moved out of the classifier phrase.

There are some remaining questions that need to be explored in the future. If classifiers are pronominal, how do we explain languages that have bound-morpheme
classifiers? The present analysis will be proved powerful once more classifier languages can be accounted for under it. This will be the project for future research.

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