Modification and reference in the Chinese nominal

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Chapter 1 Introduction

1. Goal and data

The main goal of this dissertation is to investigate the structure of the Chinese noun phrase by using modification data from different Chinese languages. In particular, this dissertation proposes a theory that accounts for the encoding of specificity and definiteness in the Chinese noun phrase, which can be extended to account for non-Sinitic languages that are spoken in China such as Zhuang and Miao.

The three Chinese languages that constitute the main focus of this dissertation are Cantonese, Mandarin and Wenzhou. Cantonese belongs to the Yue family and is spoken in Guangdong and Guangxi, in the area around the southernmost point in the curve of the South China coastline (Ramsey 1989). The variety of Cantonese used in this dissertation is from Hong Kong. Mandarin is the Northern variety of Chinese. The area where the Mandarin dialects are spoken extends over all of North China as well as the Sinicized territories of the Northwest and Southwest (Ramsey 1989). The variety of Mandarin that is used in this dissertation is from Beijing. Wenzhou belongs to the Wu family, which is spoken in the Yangtze delta and the coastal region around Shanghai (Ramsey 1989). The variety of Wenzhou used in this dissertation is from Wenzhou city.

For non-Sinitic languages, this dissertation focuses on Zhuang and Miao. Zhuang belongs to the Tai family (Ramsey 1989). It is mostly spoken in the Guangxi Zhuang Autonomous Region. The variety that is used in this dissertation is Hechi Zhuang. Miao belong to the Miao-Yao family. Within China, it is spoken in the mountainous areas of Southern China including Guizhou, Hunan, Yunnan, Sichuan, Guangxi and Hebei. Outside China, it is spoken mainly in Thailand, Laos and Vietnam. The Miao data used in this dissertation is the variety spoken in Yunnan.

The language data used in this dissertation are presented using the following conventions:

Cantonese:	*Jyutping* (the Linguistic Society of Hong Kong Cantonese Romanization Scheme)
Mandarin:	*Pinyin* (People's Republic of China's official Romanization system)
Wenzhou:	International Phonetic Alphabet
Zhuang:	Official Zhuang orthography

Miao: International Phonetic Alphabet

2. An overview of the dissertation

Chapter 2 The Determiner Phrase (DP) and Chinese

The term Determiner Phrase (DP) can be understood in at least two different ways. It can refer, loosely, to the entire superstructure of the NP (as it is used in Abney 1987), or it can refer, more restrictively, to one particular functional layer on top of the NP, namely, an independent functional layer that encodes both referentiality and argumenthood (as it is used in Longobardi 1994). I call the former a 'loose DP' and the latter a 'strict DP'. In chapter 1, I argue that Chinese has a 'loose DP', but there is no evidence to suggest that Chinese has a 'strict DP'. In view of the lack of a layer to encode referentiality as well as argumenthood, one possible option is to let other elements in the Chinese nominal take care of both functions. Chierchia (1998) proposes that Chinese nouns come out of the lexicon as individuals and can be used directly as arguments. Cheng & Sybesma (1999) propose that the classifier in Chinese is what gives rise to referential properties and argumenthood. I argue that both approaches are problematic. One common problem of both Chierchia's (1998) and Cheng & Sybesma's (1999) approaches is that it is unclear how to allocate demonstratives and modifiers that appear to the left of the classifier (or numeral when present). I argue that these elements cannot simply be adjoined to the structure as the presence of these elements to the left of the classifier (or numeral) alters the referential properties of the noun phrase. This indicates not only that the layer where these elements reside is related to referential properties (but not argumenthood), it also suggests that using data with modification is a fruitful way of probing into the structure of the Chinese noun phrase.

Chapter 3 A Specificity Phrase (SP) in the Chinese nominal

In chapter 3, I argue that the layer in which the demonstratives and modifiers (to the left of the classifier or numeral) reside is a Specificity Phrase (SP), which only gets projected for specific noun phrases.

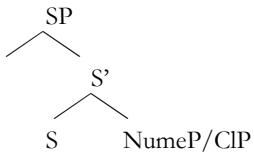
There are two positions a modifier can appear in a noun phrase. It can appear between the classifier and the noun, which I call the inner domain; or it can appear to the left of the classifier (or the numeral when it is present), which I call the outer domain. The interesting thing is that when a modifier appears in the inner domain, the addition of the modifier does not alter the referential properties of the noun. On the other hand, when a modifier appears in the outer domain, only a specific reading is available. This can be schematized as follows:

(1) a. [(Nume)-Cl-modifier-N] --- specific, non-specific
b. [modifier-(Nume)-Cl-N] --- specific

In (1b), if the modifier is replaced by a demonstrative, the noun phrase is also specific, trivially because demonstrative-containing noun phrases are always specific.

Firstly, there is a need for a layer to host the demonstratives and modifiers that appear to the left of the classifier/numeral. Secondly, a noun phrase that contains a demonstrative or a modifier to the left of the numeral is always specific. I relate the two by assuming that the extra layer in question is a Specificity Phrase (SP). The Specificity Phrase only gets projected for specific noun phrases.

(2)



Chapter 4 The encoding of definiteness in Chinese

Having established that there is a Specificity Phrase in Chinese in chapter 3, chapter 4 proposes a mechanism that regulates the expression of definiteness in the Chinese nominal.

Recent research on the nominal suggests that there are two D-related layers in the nominal (Szabolcsi 1994, Campbell 1996, Hoekstra & Hyams 1996, Brugè 2002, Giusti 2002, among others). D-related is understood in the sense that these layers are related to the encoding of referential properties. The lower D-related layer is very close to the lexical core while the higher D layer is on the left edge of the noun phrase. Adopting such a two-layer split in Chinese, I assume that the Specificity Phrase is the higher referential layer and the Classifier Phrase is the lower referential layer. I further assume that definiteness is encoded in the classifier (à la Cheng & Sybesma 1999). The classifier can come out of the lexicon either specified as definite or unspecified for definiteness ([+def] or ϕ). The S head receives its definiteness specification via an Agree relation with the classifier. An S head that is unspecified for definiteness receives an indefinite interpretation from a default rule at LF. The interaction between the S head and the classifier head as well as some language specific requirements give rise to the different definiteness readings of different types of Chinese noun phrases.

Chapter 5 Different types of modifiers and different domains of modification

In chapter 3 and 4, I use modification data to probe into the structure of the Chinese nominal, but in fact, modifiers in Chinese come in two different flavors and are arguably merged into the structure in different ways. Chapter 5 is devoted to these issues.

There are two types of modifiers in Chinese. Modifiers can either come with a modification marker at the end (e.g. *ge*^{3} in Cantonese and *de* in Mandarin), which marks a modification relation between the modifier and the noun, or they can be bare.

(3)
a. Marker modifier: [modifier-marker] b. Bare modifier: [modifier]

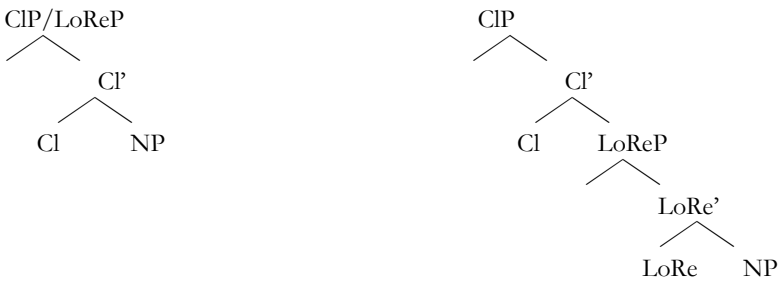
In this chapter, I argue that marker modifiers are adjuncts and bare modifiers are specifiers, based mainly on their distributive and interpretative differences. Moreover, I show that modifiers in the outer domain modify the referent of the noun while modifiers in the inner domain modify the property of the noun (the genus of the noun).

Chapter 6 The Zhuang and Miao nominal phrases

Zhuang and Miao are two non-Sinitic languages that are spoken in Southern China. The nominal elements in Zhuang and Miao are arranged differently from those in Chinese, as illustrated below:
(4)
Chinese: Dem-Nume-Cl-N
Zhuang: Nume (excluding 'one')-Cl-N-Dem / 'one'
Miao: Nume (including 'one')-Cl-N-Dem

In both Zhuang and Miao, the demonstrative cannot co-occur with the numeral 'one'. In chapter 6, I account for the structures and interpretations of Zhuang/Miao noun phrases based on the nominal structure I have proposed for Chinese, making use of the Specificity Phrase and the idea that there is a two-layer interplay regulating the encoding of referential properties of the nominal. The differences between Chinese on the one hand, and Zhuang and Miao on the other hand is that, in Chinese, the Classifier Phrase is at the same time also the lower referential layer where definiteness is encoded; in Zhuang/Miao, the lower referential layer and the Classifier Phrase are two separate projections. The lower referential layer is abbreviated as LoReP in the following structures:

(5)a. Chinese b. Zhuang/Miao



In other words, in Chinese, the Classifier Phrase and the lower referential layer are fused into one. In Zhuang and Miao, they are separate.

3. Terminology

In this section, I will introduce some notions that I will be using throughout this dissertation. These notions are definiteness and specificity. The content of the discussion I give here owes much to Lyons (1999).

3.1 Definiteness

Generally, a definite noun phrase is used to refer to an object that both the speaker and the hearer can identify. When a definite noun phrase is used, the object it refers to is, in most cases, either familiar or unique. I discuss the two notions, familiarity and uniqueness below.

One way to view definiteness is to relate it to the notion of familiarity (Christophersen 1939, Hawkins 1978, Heim 1982, Zamparelli 1996, among others). The general idea is that a definite expression is used to refer to a referent that has already been introduced into the discourse at the time the definite expression is used. An indefinite expression, on the other hand, is used to introduce a novel referent. The notion of familiarity accounts for the usage of a definite expression in cases like the following (in all subsequent examples in the remaining of this section, the noun phrases in question are in boldface):

(6) I bought a hat and a dress yesterday. **The dress** is too short.

For (6) to be used felicitously, the object *the dress* has to be previously introduced into the discourse. After that, *the dress* is familiar. Both the speaker and the hearer know what it refers to within the domain of discourse.

Lyons (1999) observes that familiarity is not always satisfied in the use of definite expressions. Consider some examples that he provides:

(7) I've just been to a wedding. **The bride** wore blue.

(8) [Nurse about to enter operating theatre]
I wonder who **the anesthetist** is today.

Lyons (1999) calls such usage associative in the sense that, in each case in (7) and (8), the hearer is able to associate the definite noun to a referent that he expects to find in or associate with the situation. In order for the speaker and the hearer to be able to refer to the same referent without the referent being familiar, Lyons (1999) points out that the idea of uniqueness is at play. For (7), there is only one bride at a wedding. For (8), it requires the

assumption that there is only one anesthetist in an operating theatre. If there is only one unique referent that fits the description of the noun phrase, the speaker and the hearer will end up referring to the same individual. In such cases, a definite expression is also used.

In this dissertation, I assume that a noun phrase is definite if it obeys either familiarity or uniqueness, or both. Assuming the existence of the object the definite expression refers to is always presupposed (Heim 1982, Zamparelli 1996, among others), I define definiteness in the following way:

(9)
A definite noun phrase is one that always obeys Presupposition of Existence (POE) and either Familiarity or Uniqueness, or both. POE, Familiarity and Uniqueness are defined as follows:

(i) Presupposition of Existence (POE): The referent of the noun phrase is presupposed to exist in a particular universe of discourse.

(ii) Familiarity: A noun phrase is familiar if its referent /set of referents has previously been introduced into the discourse.

(iii) Uniqueness: A noun phrase has a unique/set of unique referents.

3.2 Specificity

The specific and non-specific distinction is most obvious in contexts that involve verbs of prepositional attitude (such as *want, believe, hope, intend,* etc.), negation, questions, conditionals, modals and future tense. One thing that all these elements have in common is that they can present a proposition as counterfactual, potential or hypothetical rather than factual (Lyons 1999). Consider the following example from Lyons (1999):

(10) Peter wants to marry **a merchant banker**.

The interpretation of the object *a merchant banker* in (10) is ambiguous. It can refer to a particular merchant banker the speaker has in mind, or it can mean just any merchant banker. The ambiguity can be cleared up by a follow-up sentence. Both (11a) and (11b) are taken from Lyons (1999):

(11) a. Peter wants to marry **a merchant banker** – even though he does not get on at all with her.
b. Peter wants to marry **a merchant banker** – though he hasn't met one yet.

The reading in (11a) is often called the specific reading and the reading in (11b) is called the non-specific reading. In fact, there is yet another possible reading, as in example (12), also taken from Lyons (1999).

(12) Peter wants to marry **a merchant banker** – I wonder what she is like.

In (12), the speaker does intend to refer to a particular merchant banker, though the speaker can't identify her. I also consider this reading to be specific.

For the non-specific noun phrase in (11b), the existence of *a merchant banker* is not presupposed. There are, however, cases where the existence of the referent of a non-specific noun phrase is presupposed. Evidence comes from Turkish and Korean where specificity is marked overtly.

In Turkish, specificity is marked morphologically by the accusative case marker *–i* (data taken from Öztürk 2004, for earlier work, see Enç 1991):

(13) a. Ali bir kitap okudu
Ali a book read
'Ali read a book.' (non-specific indefinite)

b. Ali bir kitab-i okudu
Ali a book-ACC read
'Ali read a certain book.' (specific indefinite)

The contrast in specificity between (13a) and (13b) does not involve a contrast in presupposition of existence. In (13a), the book has to exist in order for Ali to have read it. The difference between the specific reading and the non-specific reading hinges on whether the speaker refers to a particular book or not.

In Korean, a scrambled noun phrase is obligatorily interpreted as specific (both the observations and the following examples are from Kim 2004):

(14) a. (na-nun) kil-eyse tongcen cwu -ess-ta
I-TOP street-LOC coin pick-up -PST-DECL
'I found a coin in the street.'

b. (na-nun) tongcen-ul kil-eyse cwu -ess-ta
I-TOP coin-ACC street-LOC pick-up -PST-DECL
'I found a particular/the coin in the street.'

In (14b), *tongcen-ul* 'coin' is in a scrambled position and it is interpreted as specific.

Note that, similar to Turkish, an overt case marker-*ka/i* for nominative and *–(l)ul* for accusative are required for marking specificity in Korean.

(15) Yonghi-nun [etten haksayng *(-ul)] po –ass-ta
Yonghi-TOP certain student * (-ACC) saw-PST-DECL
'Yonghi saw a certain student.'

Again, in both (14a) and (14b), the coin exists. Otherwise, the speaker could not have found it. The difference between the specific and the non-specific reading, again, hinges on whether the speaker refers to a particular coin or not. In view of the Korean and Turkish data above, I adopt the assumption that non-specific noun phrases can also presuppose the existence of the object it refers to.

In view of the above, I define specific noun phrases in the following way:

(16)
A noun phrase is specific if it satisfies the following conditions from the perspective of the speaker:

(i) Presupposition of Existence (POE): The referent of the noun phrase is presupposed to exist in a particular universe of discourse.

(ii) Particular referent (PR): The speaker refers to a particular referent.

A non-specific noun phrase is one that does not obey PR, and may or may not obey POE.

Chapter 2 The Determiner Phrase (DP) and Chinese

1. Introduction

This chapter discusses the following issues:

- The different interpretations of the Determiner Phrase (DP)
- Whether Chinese has a Determiner Phrase or not
- Previous proposals on the Chinese noun phrase
- New data that reveal patterns related to the encoding of referentiality in the Chinese noun phrase

Abney (1987) observes that there are a lot of similarities between the clausal and the nominal domain, based on data from various languages (English, Hungarian, Yip'ik, etc.). To capture the parallel, he proposes the Determiner Phrase (DP) and argues that it is the nominal counterpart of the clausal IP. INFL selects the VP; D selects the NP. Back then (pre-Pollock 1989), INFL was taken to be responsible for all the morphological inflections on the verb, agreement, case as well as tense. In other words, INFL could be understood as the functional superstructure of the VP. Since the postulation of the DP is also partly based on evidence from case and agreement facts in the nominal (in languages like Hungarian and Yip'ik), the term DP, as it is used in Abney (1987), can be broadly understood as the functional superstructure of the NP, which takes care of case, agreement and the deictic function (the nominal equivalent of tense). Let's call it the 'loose' interpretation of the DP.

Since Pollock (1989), IP is no longer a single layer entity. IP is split into (at least) tense and agreement. In the nominal domain of languages with observable agreement, treating D as a separate projection from agreement is also common practice. Various different functional projections between D and N, such as Number Phrase (NumP) (Ritter 1992) and Gender Phrase (GenP) (Picallo 1991), have been proposed. In view of this, the term DP can no longer be treated as a cover term for the functional superstructure of the NP. It refers narrowly to a syntactic layer that has a certain nature. In this sense, DP is generally taken to mean a single independent layer that encodes both argumenthood and referential properties (Longobardi 1994). The DP layer hosts articles and other determiner elements. Let's call this the 'strict' interpretation of the DP.

With respect to the 'loose' interpretation, Chinese does have a DP. The superstructure of a Chinese NP includes (at least) the Classifier Phrase (Tang 1990) and the Numeral Phrase (Cheng & Sybesma 1999). With respect to the 'strict' interpretation, Chinese has no articles and it allows bare noun phrases to function as arguments; there is no convincing evidence to suggest the presence of a 'strict DP' in Chinese.

If there is no DP in the 'strict' sense, the question arises as how Chinese encodes argumenthood and referential properties. One possibility that has been explored in the literature is to assign such properties to existing elements in the Chinese nominal. Let's call this the 'fused DP' approach. Chierchia (1998) proposes that Chinese nouns come out of the lexicon as individuals, can thus be used directly as arguments. Cheng & Sybesma (1999) argue that the classifier in Chinese encodes argumenthood and referential properties. Each proposal has problems of its own, suggesting that a 'fused DP' approach is not adequate in account for Chinese either.

Both Chierchia's (1998) and Cheng & Sybesma's (1999) proposals only look at plain unmodified noun phrases. They also share the underlying assumptions that there is one single layer in the nominal that encodes both argumenthood and referential properties. It is, however, also conceivable that these two properties are not encoded in the same head in some languages. A priori, there is no reason to believe that these two properties have to be coupled in Chinese. Modified noun phrases in Chinese suggest that referential properties and argumenthood are indeed encoded separately in Chinese.

A problem shared by both Chierchia (1998) and Cheng & Sybesma's (1999) approaches is that it is unclear as to where to allocate elements that appear to the left of the classifier/ numeral (e.g. the demonstratives, modifiers, etc.). At first blush, this does not seem to be a problem as one can have demonstratives and modifiers adjoined to the Classifier Phrase or the Numeral Phrase. However, interestingly, the presence of modifiers to the left of the classifier (or numeral) may alter the referential properties of the noun phrase. Assuming that modifiers are adjoined to the Classifier Phrase and the Numeral Phrase cannot account for the change in referentiality. The interpretation of Chinese noun phrases that contain modifiers indicates that there might be some structure to the left of the numeral that is related to referentiality, but not argumenthood. This suggests that firstly, in Chinese, argumenthood and referentiality are encoded in different places and secondly, using data with modification reveals patterns that are not observable in plain unmodified noun phrases.

This chapter is organized in the following manner. In section 2, I argue that the only possible candidates for determiners in Chinese, the demonstratives, don't behave like regular determiners. In section 3, I review the different forms and interpretations of unmodified Chinese noun phrases, from the angle of the functions of D, and conclude that there is no conclusive evidence to suggest the presence of a 'strict DP' in Chinese. In section 4, I review two 'fused DP' approaches, Chierchia (1998) and Cheng & Sybesma (1999). I conclude that Chierchia's (1998) account cannot account for Chinese adequately and that Cheng & Sybesma (1999)'s account is also problematic. In section 5, I argue that demonstratives and modifiers that appear to the left of the classifier cannot simply be adjoined to the noun phrase. They are located in a higher projection that is related to referential properties, but not argumenthood. I conclude this chapter in section 6.

2. The Chinese demonstrative

Determiners are the morphological reflexes of the functional category D. Chinese has no articles. The only plausible candidate for the functional category D is the demonstrative.[1] However, there are reasons to believe that the Chinese demonstratives are very different from the English demonstratives.

Fukui (1995) argues that only functional categories project up to a certain XP level. This XP level closes the structure in such a manner that nothing that is interpretatively within the XP level can show up outside the c-commanding domain of X, unless X has Kase to assign to its specifier position.[2]

Fukui (1995) argues that, in English, *the* is a non-Kase-assigner. Thus, nothing can appear in the specifier position of the projection headed by *the*, giving rise to the following contrast:

(1) a. the book
b. * John the book

In contrast, the genitive 's' is a Kase-assigner and allows an element in its specifier position:

(2) John's lecture

The genitive 's' has only one Kase to assign, so no more than one element can appear in its specifier position:

(3) * yesterday's John's lecture

Demonstratives in English are like functional heads in the sense that they close the nominal domain properly. No element can appear to the left of the demonstrative:

(4) a. this book
b. * John's this book

(5) a. that lecture
b. *yesterday's that lecture

Fukui (1995) shows that in Japanese, the demonstrative does not close off the nominal. More than one element can appear to the left of the demonstrative.

---

[1] Quantifiers will not be discussed in this dissertation.
[2] Kase= Function feature and case (see Fukui 1995, p.27).

(6) John-no kono hon
John-GEN this book
'(lit.) John's this book'

(7) ookina John-no ano kuruma
big John-GEN that car
'(lit.) big John's that car'

The demonstrative in Japanese is thus different from a typical determiner element like *a* or *the* in English.

The argument can be replicated in Chinese. In Chinese, more than one modifier can appear to the left of the demonstrative. Consider the following Cantonese examples:

(8) ngo^{5} ge^{3} go^{2} bun^{2} syu^{1}
I MARKER that CL book
'that book of mine'

(9) ngo^{5} ge^{3} hung^{4}sik^{1} ge^{3} go^{2} bun^{2} syu^{1}
I MARKER red MARKER that CL book
'that red book of mine'

Since the Chinese demonstrative also does not close off the projection, this lends support to the claim that the demonstrative in Chinese is also not a regular determiner element.[3]

3. The forms and interpretations of Chinese noun phrases

The 'strict DP ' (henceforth simply 'DP') layer is generally assumed to take care of the following two functions:

(10)
(a) The deictic function → to anchor an entity to the discourse, similar to the function of T, which anchors an event to the time axis (Abney 1987, Longobardi 1994, Cheng & Sybesma 1999)
(b) The subordinator function → to turn a noun phrase into an argument, similar to the clause-typing function of the complementizer (Longobardi 1994, Szabolcsi 1994)

[3] Another option is to say that the Chinese demonstrative assigns kase to elements on its left. I exclude this possibility due to the following reasons. Firstly, an unlimited number of modifiers can potentially appear to the left of the demonstrative. Secondly, it is also possible that no modifier is on the left of the demonstrative. Assuming that a case assigner can neither assign an unlimited number of cases nor assign no case at all, I conclude that the demonstrative cannot be a case assigner.

The deictic function is what gives rise to the referential properties of noun phrases.

In Chinese, noun phrases can appear in the following four surface forms:

(11)
(i) [N]
(ii) [Cl-N]
(iii) [Nume-Cl-N]
(iv) [Dem-(Nume)-Cl-N]

(i), (ii) and (iii) can appear as arguments (either referring or not referring) and predicates. Only when a demonstrative is present in a noun phrase, as in (iv), the noun phrase has to be a referential argument. To put it differently, unless a demonstrative is present, there is no indication in the form of the noun phrase that can tell you how it has to be interpreted.

In what follows, I will present an overview of the different possible interpretations for each noun phrase type in (11). I conclude that the flexibility in interpretation does not provide positive evidence to argue for a DP layer in Chinese to encode both argumenthood and referential properties. All the examples in this section are in Cantonese. Note that different Chinese languages vary in their interpretations of different noun phrases. Thus, not all possible interpretations of all types of noun phrases in Cantonese are applicable to other Chinese languages. At any rate, the conclusions reached in the following section can be generalized to all Chinese languages.

All types of Chinese noun phrases can appear in argument position. The noun phrases in question are in boldface.[4]

Bare nouns:

(12) ngo^{5} heoi^{3} maai^{5} **syu^{1}** le^{4}
I go buy book SFP
'I went to buy books.'

[Cl-N] phrases:

(13) ngo^{5} maai^{5} –zo^{2} **bun^{2}** **syu^{1}** laa^{3}
I buy-ASP CL book SFP
'I bought the book.'

[4] I only illustrate the argument status of Chinese noun phrases in object position because in Chinese, generally, only definite noun phrases can appear in subject position (see Chao 1968, Li & Thompson 1981, Lee 1986, Tsai 1994, Li 1998, among others).

[Nume-Cl-N] phrases:

(14)	ngo^{5}	maai^{5} -zo^{2}	**saam^{1}**	**bun^{2}**	**syu^{1}**
	I	buy-ASP	three	CL	book
	'I bought three books.'				

[Dem-Cl-N] phrases:

(15)	ngo^{5}	maai^{5} -zo^{2}	**go^{2}**	**bun^{2}**	**syu^{1}**
	I	buy-ASP	that	CL	book
	'I bought that book.'				

All types of Chinese noun phrases can be interpreted as referential. The referential property of the noun phrase can be shown by the possibility of adding operators that range over individuals such as *jau^{5}* 'exist', have' and *dou^{1}* 'all'. The noun phrases in question are in boldface. (This argument is taken from Li 1998, though her data are in Mandarin. The Cantonese data below are my own.)

Bare nouns:

(16)	jau^{5}	**haak^{3}jan^{4}**	lei^{4}-zo^{2}	aa^{3}
	have	guest	come-ASP	SFP
	'A Guest(s) has/have arrived.'			

[Cl-N] phrases:

(17)	jau^{5}	**go^{3}**	**hok^{6}saang^{1}**	lei^{4}	wan^{2}	nei^{5}
	have	CL	student	come	look-for	you
	'A student came looking for you.'					

[Nume-Cl-N] phrases:

(18)	jau^{6}	**saam^{1}**	**go^{3}**	**hok^{6}saang^{1}**	lei^{4}	wan^{2}	nei^{5}
	have	three	CL	student	come	look-for	you
	'Three students came looking for you.'						

[Dem-Nume-Cl-N] phrases:

(19)	**go^{2}**	**saam^{1}**	**go^{3}**	**hok^{6}saang^{1}**	dou^{1}	lei^{4}	saai^{3}	laa^{3}
	that	three	CL	student	all	come	all	SFP
	'Those three students have all arrived.'							

A non-referential reading, a reading in which the speaker does not intend to refer to a referent, is readily available in intensional contexts where the proposition of a sentence can be presented as hypothetical. I illustrate this below with the verb *want* (the noun phrase in question is in boldface):

(20) I want to buy **a book** – even though I don't know which one.

In Chinese, all forms of noun phrases can be used as non-referential arguments except when a demonstrative is present. This is illustrated with the following Cantonese examples, using the verb *soeng*^{2} 'want'. The noun phrases in question are in boldface:

Bare nouns:

(21) ngo^{5} soeng^{2} heoi^{3} maai^{5} **syu^{1}**
I want go buy book
'I want to go book-buying/ I want to go buy books.'

[Cl-N] phrases:

(22) ngo^{5} soeng^{2} heoi^{3} maai^{5} **bun^{2}** **syu^{1}**
I want go buy CL book
One possible reading: 'I want to buy a book, any book.'

[Nume-Cl-N] phrases:

(23) ngo^{5} soeng^{2} heoi^{3} maai^{5} **saam^{1}** **bun^{2}** **syu^{1}**
I want go buy three CL book
One possible reading: 'I want to buy three books, any three books.'

[Dem-Nume-Cl-N] phrases:

(24) ngo^{5} soeng^{2} heoi^{3} maai^{5} **go^{2}** **bun^{2}** **syu^{1}**
I want go buy that CL book
'I want to buy that book.'

The objects in (21), (22) and (23) can be interpreted as either referring or non-referring in an intensional context. The object in (24), with the presence of the demonstrative, is obligatorily referring even in an intensional context. What the above shows is that noun phrases of the form [N], [Cl-N], or [Nume-Cl-N] are flexible in interpretations, while [Dem-Cl-N] phrases are rigidly referential.

In addition to being arguments, noun phrases can also be predicates. Predicates are always non-referential. As expected, noun phrases of the forms [N], [Cl-N] and [Nume-Cl-N] in Chinese can be used as predicates, but [Dem-Cl-N] phases can't.

Zamparelli (2005) proposes the following test to check whether a noun phrase is a property-denoting nominal (predicate):

(25)
Property test: X denotes a property iff it can appear in the constructions *be/seem X, consider this X, regard this as X.*

Zamparelli (2005) notes that these tests are not always foolproof. Copular constructions are complicated by the potential existence of equatives, with referential noun phrases on both

sides of BE (e.g. *Mark Twain is Samuel Clements*). He suggests that using a quantificational subject like *no man* will rule out the possibility of getting an equative sentence. Another way to exclude an equative reading is to use intensional nouns like *tragedy* as predicates because they force the endowment of a property onto the subject.[5]

In what follows, I will take copular constructions with the negation marker *no* in the subject or use an intensional type of property like *tragedy* as predicate to test the possibility of predicatehood with the four types of noun phrases. I will use Cantonese examples; again, the noun phrases in question are in boldface.

[Dem-Cl-N] phrases are unable to act as predicates. They are obligatorily referential. The ungrammaticality of such phrases as predicate is shown below:

(26) *mou^{5} jan^{4} hai^{6} **go^{2}** **go^{3}** **lou^{5}si^{1}**
no man BE that CL teacher

[Nume-Cl-N] phrases can act as predicates with the intensional noun *tragedy*:

(27) keoi^{5}dei^{6} ge^{3} gu^{3}si^{6} hai^{6} **saam^{1} go^{3}** **daai^{6}** **bei^{1}kek^{6}**
they MARKER story BE three CL big tragedy
'Their stories are three big tragedies.'

Similarly, [Cl-N] phrases and bare nouns can also be used as predicative noun phrases:

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[5] Terms of profession will not be used in the testing of predicatehood since they often behave differently from regular nouns. For instance, in French, professions can appear bare as the predicate of copular sentences while regular nouns can't. Regular nouns have to appear with an article (examples taken from Schmitt 2004):

(i) Cet homme est médecin
This man BE doctor
'This man is a doctor.'

(ii) Cette boîte est *(une) chaise
This box BE one chair
'This box is a chair.'

The impossibility of regular bare nouns appearing in predicate position suggests that when terms of profession are used in predicate position, they are either not actually bare, or a different mechanism is at play. Due to the exceptional behavior of terms of profession, they will not be used in the diagnosis for predicatehood.

(28) keoi^{5} ge^{3} jat^{1} sang^{1} hai^{6} **go^{3}** **bei^{1}kek^{6}**
he MARKER one life BE CL tragedy
'His life is a tragedy'

(29) lei^{1}dou^{6} mou^{5} jan^{4} hai^{6} **ngoi^{6}jan^{4}**
here no person BE outsider
'Nobody here is an outsider.'

The form and interpretation co-relation of Cantonese noun phrases is summarized in the following table:

(30)

	REFERENTIAL ARGUMENT	NON-REFERENTIAL ARGUMENT	PREDICATE
Bare nouns	√	√	√
[Cl-N] phrases	√	√	√
[Nume-Cl-N] phrases	√	√	√
[Dem-Cl-N] phrases	√	X	X

As shown in the table above, except [Dem-Cl-N] phrases, all other forms of noun phrases are flexible with respect to referential properties and argumenthood. In view of the flexibility, there is no indication that there is a need for a DP layer in Chinese to give rise to both referentiality and argumenthood. As for [Dem-Cl-N] phrases, they are always referential. I assume that it is due to the referential nature of the demonstrative. Since referential noun phrases are always arguments, demonstrative-containing noun phrases are always arguments.

4. The 'fused DP' approaches to the Chinese nominal

As concluded in section 3, there is no indication that there is a 'strict DP' in Chinese. To understand the Chinese nominal, one possibility is to assign the D functions to some existing elements in the Chinese nominal. In this section, I review two proposals that go along this line, Chierchia (1998) and Cheng & Sybesma (1999).

4.1 Chierchia (1998)

4.1.1 Summary

The view that all noun phrases require a D layer to achieve argumenthood is not uncontroversial. Chierchia (1998), for instance, holds a different view. Chierchia argues that NPs have a double nature. When they appear as restriction for determiners/quantifiers, they are predicates; when they are names of kinds, they are arguments. He explores the idea that the denotation of NPs (whether it comes out as an argument or a predicate from the

lexicon) is set by a semantic parameter, which he calls the Nominal Mapping Parameter (NMP). In his view, the syntactic category N is regulated by two features, [±arg(ument)] and [±pred(icate)]. [+arg] NPs can be mapped into arguments directly and get kinds as their value. They don't need to be type-shifted by determiners; [+pred] can be mapped into predicates directly and get property as their value. They need determiners (DET) to make them into arguments. A typology of the four types of logically possible NP settings, together with the properties that would inevitably tag along, is shown below (see Chierchia 1998 for details concerning how those properties fall out from a particular NP setting):

(31)

(a) [+arg, -pred] (e.g. Chinese)
- generalized bare arguments
- all nouns are mass nouns
- no plural morphology
- generalized classifier system

(b) [-arg, +pred] (e.g. French, Italian)
- no bare nominals in argument position
- count/mass distinction
- morphological plural

(c) [+arg, +pred] (e.g. English)
- bare mass nouns and plurals in argument position
- no bare singular count nouns
- plural morphology

(d) [-arg,-pred] (non-existent)

Chinese NPs are [+arg, -pred]. That is, in Chinese, bare NPs are really bare. No D-layer is projected. Bare NPs can appear as arguments because of the [+arg] setting of the NMP, not because of the workings of some higher functional layer(s).[6] Determiners need a predicate as restriction. In [-arg, +pred] languages like Italian, the DET (determiner) selects the NP, which comes out of the lexicon as a predicate. Since Chinese also has determiner-like elements that are not articles (e.g. quantifiers, demonstratives, etc.), it is crucial for Chierchia to have a variant of the DET, which he tags as DET', which selects kinds for languages like Chinese (as Chinese NPs come out from the lexicon as arguments and their natural denotation is kinds). DET' selects NP kinds and shifts NP kinds into properties in order to

[6] In Chierchia's (1998) account, all arguments are referential. Argument NPs are either of type <e> or of the type of Generalized Quantifiers.

give rise to the necessary restriction.[7] Since the property of being an instance of a kind does not differentiate between singular and plural instances, bare NPs in Chinese are thus always mass. A prediction that stems from the obligatory mass interpretation is that number morphology will be missing. The lack of number morphology is due to the indistinctiveness between singular and plural in the resulting mass nouns. Pluralization is a function that applies to sets of atoms, but mass nouns do not correspond to sets of atoms, 'Hence, pluralizing them makes no sense.'(Chierchia 1998, p.347). For counting, we need to individuate a level at which to count. As a consequence, classifiers will be needed to individuate an appropriate counting level. These clusters of properties are all observed in Chinese.

4.1.2 Discussion

Chierchia's NMP receives a considerable amount of criticism targeting both empirical and theoretical issues. Here, I will only focus on problems related to Chinese. For other criticisms, see Munn & Schmitt (1999) and Borer (2005).

(i) Number reflection on the classifier

The NMP predicts that the existence of a classifier system in a language (arising from all nouns being mass) entails a lack of plural marking (mass nouns do not differentiate singulars from plurals). This is a correlation that is not entirely correct in Chinese. It is true that in Chinese, there is no plural making on the noun itself. However, plural marking does exist at the level of the classifier (Cheng & Sybesma 1999). In Chinese, regular classifiers, when they are not accompanied by numerals, express the cardinality of 'one'. There is also a general 'plural' classifier (e.g. *xie* in Mandarin, *di*^{1} in Cantonese and *ki* in Wenzhou), which is used to convey the cardinality of 'more than one' with count nouns. The word 'plural' is in quotation marks here because this kind of classifiers can also be used with mass nouns. It is similar to *some* in English, which is also compatible with both types of nouns. The following Cantonese examples illustrate the point. When the noun is a count noun, a singular classifier is used (as in (32)); when it is a mass noun, a mass classifier (or measure phrase) is used (as in (33)). When conveying plurality of an undefined number of a count noun (i.e. simply conveying the meaning of 'more than one'), the general 'plural classifier' is used (as in (34a)). The 'plural classifier' can also be used with mass nouns (as in (34b)).

(32) zek^{3} gau^{2}
CL dog
'the/a dog'

[7] Property = predicate

(33) bui[1] seoi[2]
CL water
'the/a cup of water'

(34) a. di[1] gau[2]
CL_{-pl} dog
'some dogs'

b. di[1] seoi[2]
CL_{-pl} water
'some water'

If it is indeed true that all nouns in Chinese are mass, and as a consequence, plural marking is irrelevant, it is strange that there exists a classifier that is used to convey plurality of an undefined amount for count nouns. Of course, it is even stranger as to why the so-called 'plural' classifier can be used with mass nouns. Leaving the 'plural classifier –mass noun' puzzle aside, what this shows is that there is in fact a way of showing singularity or plurality of count nouns at the level of the classifier.[8]

(ii) Distributional restrictions

The NMP predicts that there does not exist a language that allows bare nouns to be arguments and at the same time show singular/plural morphology. Italian, however, appears to show both properties. In order to account for Italian, Chierchia is forced to stipulate that even though Italian has the [-arg, +pred] setting, meaning that it needs a DET to make an NP into an argument. It, however, differs from French (which bans the appearance of bare nouns in argument positions) in that it permits a null DET. In other words, Italian bare nouns are not really bare. Assuming further that null DET needs to be lexically governed, Chierchia can derive the subject/object asymmetry observed in the distribution of Italian bare plurals (following Longobardi 1994), as shown in (35) and (36). In (35), the sentence is out because the empty DET in the subject is not lexically governed. In (36), the empty DET is governed by the verb *preso* 'have', thus its appearance is licensed. The following data are from Chierchia (1998).

[8] In a language like English, where nouns can be either count or mass, the NMP would predict the use of classifiers with mass nouns, which is in fact true. Things like *a grain of sand, a cup of milk*, etc. appear in English regularly. The unexpected occurrences are, as pointed out by Borer (2005), things like *three drops of blood, three cups of milk*, etc. Taking *drop* and *cup* as mass classifiers, it is again unclear why they have to be pluralized.

(35) * Bambini sono venuti da noi
kids BE_{pl} come by us
Intended reading: 'Kids came by us.'

(36) ho preso biscotti con il mio latte
AUX have cookies with DET my milk
'(I) had cookies with my milk.'

One of the predictions that Chierchia (1998) makes explicitly about Chinese is that, since Chinese is a language with a [+arg, -pred] NP setting, bare arguments do not come with a null DET. Hence, grammatical occurrences of bare arguments across the board are expected (unlike Italian). This is not true in Cantonese, however, as observed in Cheng & Sybesma (1999). In Cantonese, when a bare NP appears in an episodic sentence, a subject/object asymmetry appears. Bare NP is barred from the subject position.

(37) * gau^2 sik^6-gan^2 juk^6
dog eat-PROG meat
Intended reading: 'The dog is eating meat.'

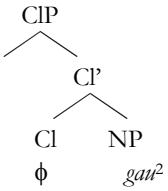
(38) keoi^3 wai^3-zo^2 gau^2 laa^3
he feed-ASP dog SPF
'He has fed dogs.'

If the inability of Italian bare NPs appearing in the subject position of an episodic sentence is due to the presence of a null DET, should the same be true for Cantonese?

Not necessarily. Before explaining why, several points have to be made first. It has long been observed that, generally, only definite noun phrases in Chinese can appear in subject position (see Chao 1968, Li & Thompson 1981, Lee 1986, Tsai 1994, Li 1998, among others). In Cantonese, bare noun phrases cannot be interpreted as definite. Combining the two, the ungrammaticality of (37) is accounted for. The next question is how to formulate such restriction in syntactic terms. Thinking along the line of Longobardi (1994) (adopted by Chierchia 1998), one possible way of implementing the restriction is to make use of an empty head that requires proper governing and link the empty head to (in)definiteness. The question is then, whether that empty head has to be a null DET. I think not.

The presence of a null DET is not the only way to account for the subject/object asymmetry in Chinese. What it actually takes to account for the subject/object asymmetry here is the presence of a null head. It is plausible that the subject/object asymmetry in Italian is caused by a null DET while the subject/object asymmetry in Chinese is caused by a null head of a different nature. For instance, one can assume that there is an empty Classifier Phrase on top of bare nouns (Cheng & Sybesma 1999, 2005). The subject bare noun in (37) can have the following structure:

(39)



In this case, the empty Classifier Phrase needs proper government and would consequently exclude the bare noun from appearing in an ungoverned subject position. This, however, cannot be the whole picture in Chinese. In Mandarin, bare nouns can appear in subject position. The following Mandarin example is taken from Cheng & Sybesma (1999).

(40) gǒu yào guò mǎlù
dog want cross road
'The dog wants to cross the road.'

Adopting the idea that empty heads need to be lexically governed, Cheng & Sybesma (1999) account for the contrast between (37) and (40) in terms of the interplay between language specific choices in expressing definiteness and the observation that only definite noun phrases can appear as subjects in Chinese (see Chao 1968, Li & Thompson 1981, Lee 1986, Tsai 1994, Li 1998, among others). Cheng & Sybesma argue that bare nouns in Chinese are not really bare. The Classifier Phrase is always present even in bare nouns, partly due to the D-related functions of the classifier. They also argue that for definite bare nouns in Mandarin, the noun moves to the classifier head to realize the iota operator, which encodes definiteness. The classifier head is then not empty and the noun phrase can appear in the subject position, as in (40). In Cantonese, the noun does not move to the classifier head. An overt classifier, which is comparable to an iota operator, is inserted instead (Cheng & Sybesma 1999, p. 530). Thus, a bare noun in Cantonese can never be definite. Bare nouns in Cantonese, leaving the generic reading side, can only be interpreted as indefinite. The indefinite reading in Chinese noun phrases, according to Cheng & Sybesma's (1999) account, is due to the presence of a Numeral Phrase on top of the Classifier Phrase. In the case of a Cantonese bare noun, the Numeral Phrase and the Classifier Phrase are empty, explaining why they are restricted to lexically governed position and hence the ungrammaticality of (37).

In other words, the subject/object asymmetry in Cantonese is unexpected according to Chierchia's (1998) NMP. However, the asymmetry does not necessarily contradict the claim that there is no null DET in Chinese. An empty head of a different nature (e.g. a Classifier Head) can also account for the asymmetry.[9]

[9] Chierchia (1998) has noted himself that even though grammatical occurrence of all noun phrases across the board is expected in Chinese according to the NMP, noun phrases in different positions of

(iii) DET vs. DET'

In Chierchia's (1998) account, both variants of the determiners, DET and DET', are needed in natural language. The former selects for predicate NPs (e.g. Italian NPs), the latter selects for kind NPs (e.g. Chinese NPs). The latter is needed because even though in Chinese, there are no articles, there are still determiner-like elements like demonstratives or quantifiers, which have to be located somewhere. DET always projects syntactically into the functional layer D. It can be overt (as in English), or can be covert at times (as in Italian). Chierchia (1998), independently, has to allow null DET in Italian in order to account for the distributional restrictions exemplified in (36) and (37). The question is whether DET' is allowed to be covert. Both sides of the coin seem to be problematic. If DET' is allowed to be covert, it will void his whole system because if Chinese allows covert DET', why not simply allow covert DET?[10] Then Chinese would behave just like any other articled-language except Chinese has classifiers. Borer (2005) points out that if we assume DET' is always overt, this brings up an unwanted asymmetry. If DET can project a null functional layer in Italian, it is unclear why DET' in Chinese can't project a null functional layer, except by stipulation.

4.1.3 Conclusion

Chierchia's (1998) account for Chinese provides an interesting co-relation between the use of classifiers and the possibility of bare arguments in the language. However, his account for Chinese faces the following problems. Firstly, the plural marking that is reflected on the classifier is unexpected since Chinese nouns are always mass. Secondly, the subject/object asymmetry exhibited in the distribution of noun phrases is also unexpected for Chinese since Chinese has no null DET, unlike Italian. The asymmetry, however, can be accounted for by the presence of some other empty head, without invoking a null DET. Theoretically, the need to allocate elements like quantifiers and demonstratives calls for an alternative DET element, DET', in Chinese, which can only be overt. Since DET can be covert, the existence of DET' creates an unwanted asymmetry between the two very similar elements DET and DET' (Borer 2005). I conclude that Chierchia's (1998) cannot be the right account for Chinese.

4.2 Cheng & Sybesma (1999)

4.2.1 Summary

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a sentence having different interpretations is possible and it might be related to the presence of some empty head (though crucially not DET or DET').

[10] Munn & Schmitt (1999) point out the following problem with respect to the null D option: "If the null D option is made viable, the explanatory work of the semantic parameter itself is negligible" (Munn & Schmitt 1999, p.350).

Cheng & Sybesma (1999) assume that it is a property of Universal Grammar that some entities describe, whereas other entities perform the deictic function of anchoring linguistic expressions to some particular object or event in the real world. In the verbal domain, the VP describes and T refers. In the nominal domain, the NP describes and D refers. In the nominal domain of languages with articles, the articles carry out the deictic function. In Chinese, where there is no article, Cheng & Sybesma (1999) suggest that the classifier takes up some of the functions of D, including the deictic function. They propose that the classifier head is multi-functional and it takes up the following functions of the determiners:

(41)
(a) The classifier has an individualising and singularising function. It links the description of the NP to a particular entity => the deictic function.
(b) Classifiers are like Ds in the sense that they type-shift predicates into arguments =>the 'subordinator' function (Szabolcsi 1994).
(c) The classifier head realises the iota operator (which is the equivalent of the definite article) (Partee 1987) => encoding of definiteness.

The motivations that drive Cheng & Sybesma (1999) to propose that the classifier is an almost counterpart of the determiner are the following.[11] Firstly, both the classifier and D have an individualizing function, which they think is related to the deictic function of D. Secondly, similar to the classifier system, the determiner system in some languages is also involved in classification. Determiners are often encoded with gender marking (e.g. German, Spanish, etc.). Gender marking can be viewed as a way of classifying nouns into masculine, feminine and neuter. In other words, the classifiers in Chinese and gender marking in articled-languages both classify nouns, though the criteria used for the classification are different.

One advantage of using the Classifier Phrase as an almost counterpart of the Determiner Phrase is that the existence of the Classifier Phrase as a functional projection is independently verifiable. The classifier, even if it is not linked to the D-functions, is independently required to be represented in the Chinese nominal for its classificatory function, number reflection and count/mass distinction. A brief discussion of each of these functions will be presented below.

Classificatory function:

The classifier has a clear selection relation with the noun. Different nouns require different classifiers. The choice of the classifier is mostly based on some salient property of the noun, including shape and function. The following examples are in Mandarin.

[11] Cheng & Sybesma (1999) only claim that the classifiers carry out some of the functions of the determiners, but not all.

(42) yī tiáo hé
one $CL_{lengthy\ shape}$ stream
'a stream'

(43) yī zhī jī
one $CL_{animate}$ chicken
'a chicken'

The classifier *tiáo* in (42) is used with things that have a lengthy shape. Other concrete nouns that fall into this category are ropes, belts, sausages, etc. The classifier *zhī* in (43) is commonly used with nouns with the property of being animate and with limbs (generally). Other nouns that fall into this category are dogs, cats, etc. The use of the wrong type of classifier will yield ungrammaticality:[12]

(44) * yī zhī shū
one CL book
Intended reading: 'a book'

Number reflection:

As noted earlier in section 4.1.2, the choice of the classifier can reflect whether the noun phrase is singular or plural. In addition to this, when the classifier is reduplicated, it expresses universal quantification, which can be taken as a type of pluralization (Paris 1981, Cheng & Sybesma 1999). It, again, shows that the classifier is related to number. The following Cantonese proverb illustrates this:

(45) tiu^4 tiu^4 daai^6 lou^6 tung^1 lo^4 ma^5
CL CL big road connect Rome
'All roads lead to Rome.'

Count/Mass reflection:

[12] Sometimes one can manipulate the choice of the classifier to convey an intended meaning. For instance, using a classifier for lengthy object with a human noun leads to a vulgar reading (see also Matthews & Yip 1994):

(i) go^2 tiu^4 jau^2
that CL person (slang)
'that dude'

Cheng & Sybesma (1998, 1999) show that the classifier is the place where the count/mass distinction of the noun is reflected.[13] They show that there are actually two types of classifiers and they exhibit different syntactic behaviour. The first type creates a unit of measure (46a) and the second type simply names the unit in which the entity occurs naturally (47a). They call the former massifiers (as in mass-classifiers) and the latter count-classifiers. The two types of classifiers have different syntactic properties. For instance, it is possible to put a modification marker *de* after a massifier (46b), but not after a count-classifier (47b).

Massifiers:

(46) a. sān píng jiǔ (Mandarin)
three CL_{bottle} liquor
'three bottles of liquor'

b. sān píng de jiǔ
three CL_{bottle} MARKER liquor
'three bottles of liquor'

Classifiers:

(47) a. sān ge rén (Mandarin)
three CL person
'three persons'

b. * sān ge de rén (Mandarin)
three CL MARKER person
'three persons'

In their view, Chinese noun phrases do make a count/mass distinction, and it is reflected at the classifier level.

The classifying function, the number reflection and count/mass reflecting function of the classifier show that the Classifier Phrase is indispensable as a functional layer within the extended projection of the noun phrase.

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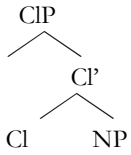
[13] Even though Chierchia (1998) claims that all members of the Chinese category NP are mass, he acknowledges that the count/mass distinction can also be found, for instance, at the level of the classifier, as suggested in Cheng & Sybesma (1998) (Chierchia 1998, p. 355):
"Obviously, liquid or 'granular' substances (like rise, sand, etc.) have important structural properties in common (for example, their minimal parts are inherently vaguer than those of things like furniture) and this may well be registered in aspects of the syntax of the corresponding nouns (e.g., in the classifier system). "

4.2.2 Structure of definite noun phrases

In Cheng & Sybesma's (1999) account, bare nouns in Chinese are never bare.[14] There is always a Classifier Phrase in the structure.

(48)



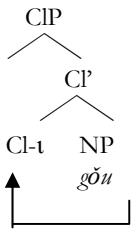
There are two ways to encode definiteness: (i) the Cl head is filled with an iota operator (ι), followed by N-to-Cl movement. (ii) the Cl head is filled with an overt classifier. Mandarin chooses the first option and Cantonese chooses the second option. This is illustrated with the subjects (in boldface) in (49) and (50). (49) is a repetition of example (40), taken from Cheng & Sybesma (1999).

(49) **gǒu** yào guò mǎlù (Mandarin)
dog want cross road
'The dog wants to cross the road.'

(50) **zek³** **gau²** jiu³ gwo³ maa⁵lou⁶ (Cantonese)
CL dog want cross road
'The dog wants to cross the road.'

A definite bare noun in Mandarin (the subject in (49)) has the following structure:

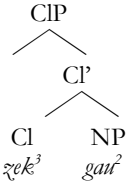
(51)



A definite [Cl-N] phrase in Cantonese (the subject in (50)) has the following structure:

[14] Cheng & Sybesma (1999) do not discuss predicative bare Chinese noun phrases.

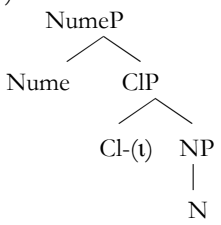
(52)



4.2.3 Structure of indefinite noun phrases

For indefinite noun phrases in Chinese, Cheng & Sybesma (1999) propose that there is a Numeral Phrase (NumeP) stacked on top of the Classifier Phrase. Since Numeral Phrases are inherently indefinite, the whole noun phrase results in having an indefinite interpretation. An indefinite [Cl-N] phrase will have the following structure:

(53)



The classifier and the numeral can be overt or covert. When the numeral is overt, the classifier cannot be covert, as illustrated in the following Cantonese example:

(54)* saam1 syu1
three book
'three books'

The combinatorics of the overt and covertness of the numeral and the classifier are as follows:

(55)

Numeral	Classifier	
Overt	Overt	→ an indefinite [Nume-Cl-N] phrase
*Overt	Covert (ɩ)	
Covert	Overt	→ an indefinite [Cl-N] phrase
Covert	Covert (ɩ)	→ an indefinite bare noun

For Cheng & Sybesma (1999), there is a fundamental difference between how definiteness is encoded in articled and article-less languages with classifiers. In articled-languages such as Germanic and Romance, nominal expressions are indefinite, unless they are embedded in a

definite D (Hoekstra 1996's class lecture). Thus, *the book* in English is in fact [*the* [*a book*]] (Cheng & Sybesma 1999, p.539). Chinese, on the other hand, has a different order of embedding. For Chinese (or for article-less classifier languages in general), [Cl-N] phrases are always definite, and an indefinite noun phrase requires a Numeral Phrase to be over-laid on top of the Classifier Phrase, [Nume[Cl-N]]. The ordering of the embedding is reversed. The two types of embedding strategies are schematized as follow:

Romance and Germanic type:
(56) [Definite [Indefinite]]

Chinese type:
(57) [Indefinite [Definite]]

4.2.4 Discussion

(i) The classifier being the locus of argumenthood and the deictic feature in Chinese

In Cheng & Sybesma's (1999) system, the classifier gives rise to argumenthood. The problem is that noun phrases containing the classifier are not always arguments. They can also be predicates, as shown in the following examples in Cantonese and Mandarin:

(58) ngo^{5} hai^{6} go^{3} baak^{6}ci^{1} (Cantonese)
I BE CL idiot
'I am an idiot.'

(59) wǒ shì ge báichī (Mandarin)
I BE CL idiot
'I am an idiot.'

If the classifier in Chinese has the deictic feature, in the sense that it locates an entity in the extra-linguistic context of time and space (e.g. the discourse), thus supplying it with spatio-temporal boundaries, it is unclear how one can explain the usage of a [Cl-N] phrase as a predicate, assuming that predicates are neither spatially nor temporally bound. Note, however, this is not a problem exclusively for Chinese. In a lot of languages (e.g. Dutch, English, Spanish, etc.), indefinite articles are used in noun phrases that can be used predicatively. Thus, even in languages with overt articles, it is misleading to over-generalize and say that articles are deictic. Definite articles are restricted to deictic context, while the indefinite articles aren't. At any rate, the Chinese classifiers are, at least, not always deictic.

(ii) The location of demonstratives and modifiers

In Chinese, many elements can appear to the left of the numeral. Among them are demonstratives and modifiers. (60), (61) and (62) are Cantonese examples.

Demonstratives:

(60) lei^{1} saam^{1} bun^{2} syu^{1}
this three CL book
'these three books'

Modifiers:

(61) daai^{3} ngaan^{5}geng^{3} ge^{3} saam^{1} go^{3} hok^{6} saang^{1}
wear glasses MARKER three CL student
'three students who wear glasses'

Both:

(62) daai^{3} ngaan^{5}geng^{3} ge^{3} go^{2} saam^{1} go^{3} hok^{6}saang^{1}
wear glasses MARKER that three CL student
'those three students who wear glasses'

In Cheng & Sybesma's (1999) system, the superstructure of the NP is built up to the Numeral Phrase. Even though they mention that demonstratives in Chinese might not be regular determiners (p. 539), the explicit placement of demonstratives and modifiers to the left of the classifier (or numeral) is left in the dark. The same applies to Chierchia (1998). In Chierchia (1998), the demonstrative is presumably treated as an element that heads the DET' phrase, but modifiers that appear to the left of the classifier (or numeral) are not accounted for. In section 5, I will show why the demonstratives and modifiers can't be simply adjoined to the noun phrase.

4.2.5 Conclusion

Chierchia (1998) connects the use of a classifier system with the possibility of having bare noun arguments in Chinese via the obligatory mass reading of Chinese NPs. In Cheng & Sybesma (1999), the bridge between the use of a classifier system and the possibility of bare arguments is also established, though via a different route. In Cheng & Sybesma's (1999) account, a classifier system exists in Chinese because of the lack of articles. The classifier takes up some of the D functions. Bare nouns can be arguments because they are not really bare, a covert Classifier Phrase is always present. In view of the discussions above, each proposal has their respective problems, but they do also share one mutual problem, which is the question as to how to allocate modifiers that appear to the left of the classifier (or numeral).

5. Detaching referentiality from argumenthood

In the previous discussion, we have been (i) only looking at plain unmodified noun phrases, and (ii) assuming that referentiality and argumenthood are coupled on the same head. Looking at plain unmodified noun phrases hasn't revealed any interesting patterns with

respect to the encoding of argumenthood and referentiality. It is also unclear why (ii) should hold, argumenthood and referentiality being two distinct properties. There is no reason why they should go hand in hand. In what follows, I present modification data to show that (ii) is a wrong assumption for Chinese.

With the 'fused DP' approach, there is a problem of allocating the demonstrative and modifiers. The problem would be trivial if one assumes that demonstratives and modifiers are simply adjoined to the noun phrases. However, there are reasons to believe that this is not the case.

Modifiers in Chinese come in two flavors. They are either bare or they come with a marker element. I will call the former bare modifiers and the latter marker modifiers. This is illustrated below with Cantonese examples.

Bare modifier:

(63) hung^{4}sik^{1} saam^{1}
red shirt
'red shirt(s)'

Marker modifier:

(64) hung^{4}sik^{1} ge^{3} saam^{1}
red MARKER shirt
'red shirt(s)'

The two types of modifiers do not combine freely with noun phrases. Bare modifiers can immediately precede the classifier in some Chinese languages (e.g. Cantonese, Wenzhou, etc.), but they can never immediately precede the numeral. Marker modifiers can immediately precede the numeral, but never the classifier. This is illustrated in the following Cantonese examples:

(65) a. [bare modifier-Cl-N]/* [bare modifier-Nume-Cl-N]

b. Leiden lei^{4} (*saam^{1}) go^{3} naam^{4}zai^{2}
Leiden come three CL boy
'The student from Leiden'

(66) a. [marker modifier-Nume-Cl-N]/ * [marker modifier-Cl-N]

b. Leiden lei^{4} ge^{3} saam^{1} *(go^{3}) naam^{4}zai^{2}
Leiden come MARKER three CL boy
'Three students from Leiden'

The restrictions suggest that the way different modifiers are merged interacts with the structure of the noun phrase they modify. In other words, it can't be the case that all modifiers are simply adjoined to the noun phrase.

In addition to the restrictions in position, modifiers also interact with the referential properties of the noun. For instance, in Cantonese, the interpretation of [Cl-N] arguments is flexible. It can be interpreted as a predicate, as in (67a), an indefinite (either specific or non-specific) or a definite argument, as in (67b). However, when a bare modifier immediately precedes the classifier, only the definite reading is left, as in (68).

(67) a. ngo^{5} hai^{6} go^{3} naam^{4}zai^{2}
I BE CL boy
'I am a boy.'

b. ngo^{5} jiu^{3} wan^{2} go^{3} naam^{4}zai^{2} (lei^{4}) bong^{1}-bong^{1}-sau^{2}
I must look-for CL boy come help-help-hand
'I have to find a specific boy/any boy/the boy to help out.'

(68) ngo^{5} jiu^{3} wan^{2} Leiden lei^{4} go^{3} naam^{4}zai^{2}
I must look-for Leiden come CL boy
(lei^{4}) bong^{1}-bong^{1}-sau^{2}
come help-help-hand
'I have to find the boy from Leiden to help out.'

Similarly, a [Nume-Cl-N] phrase in Chinese can be interpreted as a predicate (e.g. (69)), a specific indefinite or a non-specific indefinite (e.g. (70)). However, when a marker-modifier appears to the immediate left of the numeral, the resulting noun phrase can only be specific, as in (71) (as observed in Huang 1982 and Zhang 2004 for Mandarin, among others). The following examples are in Cantonese.

(69) ngo^{5} hai^{6} jat^{1} go^{3} naam^{4}zai^{2}
I BE one CL boy
'I am a boy.'

(70) ngo^{5} jiu^{3} wan^{2} saam^{1} go^{3} naam^{4}zai^{2}
I must look-for three CL boy
'I have to find three boys (any three boys or three specific boys).

(71) ngo^{5} jiu^{3} wan^{2}
I must look-for
Leiden lei^{4} ge^{3} saam^{3} go^{3} naam^{4}zai^{2}
Leiden come MARKER three CL boy
'I have to find three specific boys from Leiden.'

Adjuncts are normally taken as optional elements in a structure. The altering of the referential interpretation when a modifier is present suggests that modifiers are not simply adjoined to either the Classifier Phrase or the Numeral Phrase.

The presence of demonstratives has similar effects as that of modifiers in cases like (68) and (71), except that the resulting noun phrase is always definite (hence specific), in the sense that both the speaker and hearer are able to identify the referent.

It is possible to argue that the obligatory specific reading of noun phrases containing the demonstratives comes from the semantics of the demonstratives themselves. However, the same point cannot be made about modifiers, as they do not inherently contain any specific/deictic semantics. This suggests that the effect on referential properties when modifiers appear to the left of the numeral and the classifier is related to the structure of the whole noun phrase. Some more structure is present to the left of the Numeral Phrase and such extra structure is related to referential properties. Note that, since when there is no modifier to the left of the classifier or the numeral, the noun phrase can also be an argument, the contrast is only on referentiality but not on argumenthood. This suggests that referentiality and argumenthood are encoded in different places in Chinese. Furthermore, the contrast in referentiality suggests that using data with modifiers seems to be a promising way to investigate the Chinese noun phrase.

6. Conclusion

In this chapter, I have argued for the following:

- The Chinese demonstrative is different from the English demonstrative.
- Chinese has a 'loose DP' in the sense that there is functional structure on top of NP. However, there is no indication that there is a 'strict DP' in Chinese that encodes both referential properties and argumenthood by looking at plain unmodified noun phrases.
- 'Fused DP' approaches are problematic.
- Modification data show that there is some structure to the left of the numeral that is related to referential properties, but seemingly not related to argumenthood.

I conclude that referentiality and argumenthood are encoded separately in Chinese. The rest of the dissertation will focus on the 'extra' referentially related structure to the left of the classifier (or numeral when present) by looking at modification data, and the interaction between the extra structure and the rest of the noun phrase.

Chapter 3 A Specificity Phrase (SP) in the Chinese nominal

1. Introduction

In chapter 2, based on modification data, I argued that there is some 'extra' structure to the left of the classifier (or numeral when present) that is related to referentiality. In this chapter, I investigate the nature of this 'extra' structure.

The chapter is organized as follows. In section 2, I present data to show that noun phrases containing modifiers to the left of the classifier (or numeral) are always specific. In section 3, I present the similarities between demonstratives and modifiers that appear to the left of the classifier (or numeral). In section 4, I present my proposal on the postulation of a Specificity Phrase (SP) on top of the Numeral Phrase and discuss the properties of such a layer. In section 5, I argue for the maximal projection status of the demonstrative as well as the dipping tone in Wenzhou as a realization of the S head. I conclude the chapter in section 6.

2. Modifier positions and referential properties

In this section, I provide evidence from various Chinese languages to show that there is a co-relation between modifier position and the interpretation of specificity. In particular, whenever a modifier appears to the left of the classifier, the phrase is obligatorily specific.

2.1 [marker modifier-Nume-Cl-N] phrases vs. [Nume-Cl-marker modifier-N] phrases

2.1.1 Huang (1982)

It has been observed that in Chinese, the referential properties of a noun phrase vary depending on the position of the modifiers (Huang 1982, Zhang 2004, among others). In some cases, the differences between the positions of modifiers can give rise to grammaticality contrasts. Huang (1982) observes the following contrast in existential sentences based on Mandarin data (examples (2) and (3) are from Huang 1982, p. 64, I add example (1) here for comparison):

(the noun phrases in question are in square brackets; the modifiers are in boldface)

(1) yǒu [sān běn shū] zài zhèr
have three CL book at here
'There are three books here.'

(2) yǒu [sān běn **zhāngsān de** shū] zài zhèr
have three CL Zhangsan MARKER book at here
'There are three books of Zhangsan here.'

(3)*yǒu [**zhāngsān de** sān běn shū] zài zhèr
have Zhangsan MARKER three CL book at here
Intended reading: 'There are three books of Zhangsan here'

In (1), there is no modifier and the [Nume-Cl-N] phrase can appear in existential sentences. When a modifier is placed between the classifier and the noun, the resulting noun phrase can also appear in existential sentences, as in (2). However, when the modifier is placed to the left of the numeral, the resulting noun phrase is banned from existential sentences. Huang (1982) suggests that the ungrammaticality of (3) is related to the referential/specific nature of the noun phrase in (3).

2.1.2 Zhang (2004)

Zhang (2004) points out that the noun phrase in (2) is ambiguous between a specific and a non-specific reading, while the noun phrase in (3) is obligatorily specific. Zhang (2004) refers to the noun phrase in (2) as an Inner Modified Nominal (IMN) and the noun phrase in (3) as an Outer Modified Nominal (OMN).

(4) a. [Nume-Cl-marker modifier-N]: Inner Modified Nominal (IMN)
b. [marker modifier-Nume-Cl-N]: Outer Modified Nominal (OMN)

As far as I understood, Zhang (2004) assumes that a noun phrase is specific if the existence of the object it refers to is presupposed. I present some of Zhang's (2004) observations below to support the claim that OMNs always obey presupposition of existence (POE). Her arguments are all based on Mandarin data. In the following discussion, I will provide two additions. Firstly, for completeness, I will also show examples with unmodified [Nume-Cl-N] phrases. It turns out that unmodified [Nume-Cl-N] phrases behave like IMNs. Secondly, I will provide Cantonese evidence to support the claim.

Diesing (1992) notices that some verbs place restriction on their objects with respect to presuppositionality. In particular, verbs of creation are incompatible with objects whose existence is presupposed. Experiencer verbs, on the other hand, only allow objects whose existence is presupposed. Zhang (2004) makes use of such verbs to confirm the specificity properties of IMNs and OMNs.

Verbs of creation:

Zhang (2004) shows that only IMNs can appear as the objects of verbs of creation (e.g. *xiě* 'write') in Mandarin but not OMNs:

IMN:

(5) bǎoyù měitiān xiě
Baoyu everyday write
[sān fèn **guānyú shìchǎng - jīngjì de** bàogào]
three CL about market-economy MARKER report
'Baoyu writes three reports on market economy everyday.'

OMN:

(6) *bǎoyù měitiān xiě
Baoyu everyday write
[**guānyú shìchǎng - jīngjì de** sān fèn bàogào]
about market-economy MARKER three CL report
Intended reading: 'Baoyu writes three reports on market economy everyday.'

[Nume-Cl-N] phrase:

(7) bǎoyù měitiān xiě [sān fèn bàogào]
Baoyu everyday write three CL report
'Baoyu writes three reports everyday.'

The ungrammaticality of (6) indicates that OMN is incompatible with verbs of creation. Assuming Diesing's (1992) observation is correct, Zhang (2004) concludes that OMNs always presuppose the existence of the objects they apply to. IMNs, on the other hand, behave like unmodified [Nume-Cl-N] phrases. They don't necessarily carry POE.

I notice that the same contrast is found in Cantonese. This is illustrated below:

IMN:

(8) ngo^{5} mui^{5} jat^{6} dou^{1} -wui^{5} se^{2}
I everyday always-do write
[saam^{3} fun^{2} **jau^{5}gwaan^{1} ging^{1}zai^{3} ge^{3}** bou^{3}gou^{3}]
three CL about economics MARKER report
'I write three reports on market economy everyday.'

OMN:

(9) *ngo^{5} mui^{5}jat^{6} dou^{1}-wui^{5} se^{2}
I everyday always-do write
[**jau^{5}gwaan^{1} ging^{1}zai^{3} ge^{3}** saam^{3} fun^{2} bou^{3}gou^{3}]
about economics MARKER three CL report
Intended reading: 'I write three reports on marker economy everyday.'

[Nume-Cl-N]:

(10)ngo^{5} mui^{5}jat^{6} dou^{1} –wui^{5} se^{2}
I everyday always-do write
[saam^{3} fun^{2} bou^{3}gou^{3}]
three CL report
'I write three reports everyday.'

The Cantonese data also show that OMNs are incompatible with verbs of creation like *se*^{2} 'write'. IMNs pattern with unmodified [Nume-Cl-N] phrases, indicating that adding a modifier between the classifier and the noun has no effect on the presupposition of existence.

Experiencer verbs:

Diesing (1992) also notices that experiencer verbs (the so-called individual level predicates, e.g. *love*, *hate*, etc.) only allow objects whose existence is presupposed. Zhang (2004) shows that both IMNs and OMNs can appear in such context in Mandarin, as shown in (11) and (12). (13) shows that a [Nume-Cl-N] phrase can also appear in such a context.

IMN:

(11) wǒ tǎoyàn [liǎng ge **chōuyān de** tóngshì]
I dislike two CL smoke MARKER colleague
'I dislike two colleagues who smoke.'

OMN:

(12) wǒ tǎoyàn [**chōuyān de** liǎng ge tóngyshì]
I dislike smoke MARKER two CL colleague
'I dislike two colleagues who smoke.'

[Nume-Cl-N]:

(13) wǒ tǎoyàn [liǎng ge tóngshì]
I dislike two CL colleague
'I dislike two colleagues.'

This shows that in addition to OMNs, IMNs as well as [Nume-Cl-N] phrases can also presuppose the existence of the objects they apply to.

Again, identical patterns can be found in Cantonese:

(14) ngo^{5} m^{4}-zong^{1}ji^{3} [loeng^{5} go^{3} **sik^{6}jin^{1}** **ge^{3}** tong^{4}si^{6}]
I NEG-like two CL smoke MARKER colleague
'I dislike two colleagues who smoke.'

(15) ʔngo^{5} m^{4}-zong^{1}ji^{3} [**sik^{6}jin^{1} ge^{3}** loeng^{5} go^{3} tong^{4}si^{6}]
I NEG-like smoke MARKER two CL colleague
'I dislike two colleagues who smoke.'

(16) ngo^{5} m^{4}-zong^{1}ji^{3} [loeng^{5} go^{3} tong^{4}si^{6}]
I NEG-like two CL colleague
'I dislike two colleagues who smoke.'

In sum, Zhang (2004) concludes that OMNs always carry POE and IMNs are ambiguous with respect to POE. I have also shown that, in the discussion above, [Nume-Cl-N] phrases behave like IMNs with respect to POE.

2.1.3 Speaker's intention to refer

In both Mandarin and Cantonese, [Nume-Cl-N] phrases can be used in situations where the speaker intends to refer as well as in situations where the speaker does not intend to refer.

(17) wǒ xiǎng zhǎo sān ge xuéshēng (Mandarin)
I want look-for three CL student
'I want to find three students (any three students or three specific students).'

(18) ngo^{5} soeng^{2} wan^{2} saam^{1} go^{3} hok^{6}saang^{1} (Cantonese)
I want look-for three CL student
'I want to find three students (any three students or three specific students).

Consider the following two different contexts. The first context is that a teacher knows that three students have been smoking in the school playground and intends to find out who those three students are. In this case, the teacher is looking for three specific students. Let's call this context A. The second context is that a teacher needs to interview some students who smoke for a survey on health problems of smoking students. In this case, the teacher is looking for any three students who smoke. Let's call this context B. (17) and (18) can be used for both context A and B.

When a marker modifier appears between the classifier and the noun, the resulting noun phrase can still be used in situations where the speaker intend to refer and in situations where the speaker does not intend to refer. In other words, (19) and (20) can also be used in both contexts A and B.

(19) wǒ xiǎng zhǎo (Mandarin)
I want look-for
[sān ge **chōuyān de** xuéshēng]
three CL smoke MARKER student
'I want to find students who smoke (any three or three specific ones).'

(20) ngo^{5} soeng^{2} wan^{2} (Cantonese)
I want look-for
[saam^{1} go^{3} **sik^{6}jin^{1} ge^{3}** hok^{6}saang^{1}]
three CL smoke MARKER student
'I want to find three students who smoke (any three or three specific ones).'

OMNs, on the other hand, always refer. The can only be used in context A.

(21) ʔwǒ xiǎng zhaǒ (Mandarin)
I want look-for
[**chōuyān de** sān ge xuéshēng]
smoke MARKER three CL student
'I want to find three specific students who smoke.'

(22) ʔngo^{5} soeng^{2} wan^{2} (Cantonese)
I want look-for
[**sik^{6}jin^{1} ge^{3}** saam^{1} go^{3} hok^{6}saang^{1}]
smoke MARKER three CL student
'I want to find three specific students who smoke.'

In what follows, I would like to provide a test to show that OMNs always refer, but IMNs and [Nume-Cl-N] phrases can be non-referring. The argument is the following. If OMNs are always referring, the proposition that an OMN carries would be contradictory to the meaning of *randomly*, as manifested in the senseless sentence '*#I am going to randomly find three specific students.*' In Cantonese, the counterpart of the word *randomly* is *si^{6}daan^{6}*. The Mandarin counterpart is *suíbiàn*. The usage of the Cantonese *si^{6}daan^{6}* and the Mandarin *suíbiàn* is illustrated below:

(23) Question: Which book do you want to read?
Answer: (i) suíbiàn nǎ běn dōu xíng (Mandarin)
randomly which CL also okay
'Any would do.'
(ii) si^{6}daan^{6} bin^{1} bun^{2} dou^{1} dak^{1} la^{1} (Cantonese)
randomly which CL also okay SFP
'Any would do.'

I observe that OMNs in Cantonese and Mandarin are not compatible with the use of *si^{6}daan^{6}* and *suíbiàn* respectively, while IMNs and [Nume-Cl-N] phrases are.

Mandarin:

(24) wǒ xiǎng suíbiàn zhǎo IMN/[Nume-Cl-N]
I want randomly look-for
[sān ge (**chōuyān de)** xuéshēng]
three CL smoke MARKER student
'I want to randomly find three students (who smoke).'

(25) *wǒ xiǎng suíbiàn zhǎo OMN
I want randomly look-for
[**chōuyān de** sān ge xuéshēng]
smoke MARKER three CL student
Intended reading: 'I want to randomly find three students (who smoke).'

Cantonese:

(26) ngo^{5} soeng^{2} si^{6}daan^{6} wan^{2} IMN/[Nume-Cl-N]
I want randomly look-for
[saam^{1} go^{3} (**sik^{6}jin^{1} ge^{3}**) hok^{6}saang^{1}]
three CL smoke MARKER student
'I want to randomly find three students (who smoke).'

(27)* ngo^{5} soeng^{2} si^{6}daan^{6} wan^{2} OMN
I want randomly look-for
[**sik^{6}jin^{1} ge^{3}** saam^{1} go^{3} hok^{6}saang^{1}]
smoke MARKER three CL student
Intended reading: 'I want to randomly find three students (who smoke).'

The contrast above shows that OMNs always refer.

2.1.4 OMNs are not definite

As shown in Chapter 1, I define definiteness as follows:

(28) A definite noun phrase is one that always obeys Presupposition of Existence (POE) and either Familiarity or Uniqueness, or both. POE, Familiarity and Uniqueness are defined as follows:

(i) Presupposition of Existence (POE): The referent of the noun phrase is presupposed to exist in a particular universe of discourse.

(ii) Familiarity: A noun phrase is familiar if its referent /set of referents has previously been introduced into the discourse.

(iii) Uniqueness: A noun phrase has a unique referent / a set of unique referents.

One way to test whether an OMN is definite is to see whether it can be placed in an equative sentence (e.g. *Woody Allen is Allen Stewart Konigsberg*). Note that there are two types of BE. The first type is a predicative BE. The noun phrase to the right of a predicative BE is a predicate. This is shown in (29):

(29) Peter is a very funny guy.

The second type of BE is the equative BE. The noun phrase to the right of an equative BE is a definite expression, as shown in (30):

(30) Peter is the man standing by the bar.

Since OMNs are specific (as it is shown earlier on), they can't appear with a predicative BE. Thus, if an OMN can appear to the right side of BE, it means that it is appearing to the right side of an equative BE, showing that the OMN is definite. If an OMN cannot appear to the right side of BE, it means that it cannot appear to the right of both a predicative BE as well as an equative BE. An OMN is then specific (not compatible with a predicative BE) but not definite (not compatible with an equative BE). As the following Cantonese examples show, OMNs cannot appear to the right side of BE:

(31) *Peter hai^{6} daai^{3}-zyu^{6} mou^{2} ge^{3} jat^{1} go^{3} naam^{4}zai^{2}
Peter BE wear-ASP hat MARKER one CL boy
Intended reading: 'Peter is the boy who is wearing a hat.'

On the other hand, a demonstrative-containing phrase, which is always definite, can appear to the left of BE and have an equative reading:

(32) Peter hai^{6} daai^{3}-zyu^{6} mou^{2} go^{2} go^{3} naam^{4}zai^{2}
Peter BE wear-ASP hat that CL boy
'Peter is that boy who is wearing a hat.'

Zhang (2004) also argues for the indefinite status of OMNs based on Mandarin data. Her arguments are, partly, based on the following contrast in Mandarin:

(33) Lánlán, Tāotāo, hé jiājiā jiù shì
Lanlan, Taotao, and Jiajia exactly BE
tèbíe cōngmíng de nà sān ge háizi.
especially clever MARKER that three CL child
'Lanlan, Taotao he Jiajia are those three especially clever kids.'

(34) * Lánlán, Tāotāo, hé jīajīa jìu shì
Lanlan, Taotao, and Jiajia exactly BE
tèbié cōngmíng de sān ge haízi.
especially clever MARKER three CL child
Intended reading: 'Lanlan, Taotao he Jiajia are the three especially clever kids.'

The conclusion is that OMNs cannot appear in equative sentences and are thus not definite.

In view of the above, I conclude that OMNs are not definite. They are specific indefinites.

2.1.5 Interim conclusion

In the above discussion, borrowing some of the arguments from Huang (1982) and Zhang (2004), I have shown that there is a difference between [marker modifier-Nume-Cl-N] phrases and [Nume-Cl-(marker modifier)-N] phrases in referential properties. Assuming that specific noun phrases always carry POE and the speaker's intention to refer, there is ample evidence to indicate that [marker modifier-Nume-Cl-N] phrases are always specific and that [Nume-Cl-(marker modifier)-N] phrases are ambiguous with respect to specificity. The differences can be represented with the diagram below:

(35)
[marker modifier-Nume-Cl-N] ——— specific

[Nume-Cl-(marker modifier)-N] _____ specific/non-specific

It should be pointed out that some speakers do not like the use of OMNs, and Cantonese speakers more so than Mandarin speakers. In expressing the specific reading, they prefer to use IMNs. At any rate, there is a difference between sounding marginal and outright ungrammatical. For instance, all my informants find that (21) and (22) sound better than (25) and (27). I assume that the difference is indeed due to the obligatory specific reading of OMNs. Nevertheless, due to the fuzzy judgment of Cantonese informants in using OMNs, some more evidence is needed for Cantonese. In 2.2, I will present a contrast between [Cl-marker modifier-N] and [bare modifier-Cl-N] phrases in Cantonese, both of which are frequently found in natural speech.

2.2 [Cl-marker modifier-N] phrases vs. [bare modifier-Cl-N] phrases

In Cantonese, a [Cl-N] phrase is flexible in its interpretation. It can be used as a specific expression or as a non-specific expression:

(36) ngo^{5} soeng^{2} gaa^{3} bei^{2} [go^{3} ji^{1}sang^{1}]
I want marry to CL doctor
Specific reading: 'I want to marry a specific doctor.' / 'I want to marry the doctor.'
Non-specific reading: 'I want to marry a doctor (any doctor).'

As shown in (36), in addition to the specific/non-specific contrast, there is also a definite vs. indefinite contrast within the specific reading. The definite/indefinite contrast is irrelevant to the discussion in this chapter. Here, I only focus on the specific/non-specific constrast.

When a [Cl-N] phrase is modified, there are two possible positions for the modifier. The modifier can either be placed between the classifier and the noun, or it can be placed to the left of the classifier. I call the former Classifier-modifier-Noun (CMN) and latter modifier-Classifier-Noun (MCN).

(37)
a. [Cl-marker modifier-N] → CMN
b. [bare modifier-Cl-N] → MCN[1]

As shown in (37), the type of modifier that appears between the classifier and the noun is different from the type that appears to the left of the classifier. The former is a marker modifier and the latter is a bare modifier. In this chapter, the distinction is not relevant. For discussion on the differences between the two types of modifiers, see chapter 5.

A CMN patterns with a bare [Cl-N] phrase in the sense that it can also be interpreted either as specific or non-specific:

(38) ngo^{5} soeng^{2} gaa^{3} bei^{2} [go^{3} **daai^{3} ngaan^{5}geng^{2}** **ge^{3}** ji^{1}saang^{1}]
I want marry to CL wear glasses MARKER doctor
Specific reading: 'I want to marry a specific doctor/the doctor who wears glasses.'
Non-specific reading: 'I want to marry a doctor who wears glasses (any doctor who wears glasses).'

In other words, the range of interpretations of a [Cl-N] phrase does not change when a modifier is inserted between the classifier and the noun.

An MCN, however, can only be interpreted specifically:

[1] MCN is possible in Wenzhou but not possible in Mandarin. See chapter 4 for the restrictions as well as an analysis of this construction.

(39) ngo^{5} soeng^{2} gaa^{3} bei^{2} [**daai^{3} ngaan^{5}geng^{2}** go^{3} ji^{1}saang^{1}]
I want marry to wear glasses CL doctor
'I want to marry the doctor who wears glasses.'[2]

The obligatory specific reading of the noun phrase can be further supported by the observation that (39) can be followed by (40b) but not (40a):

(40) a. si^{6}daan^{6} jat^{1} go^{3} dou^{1} dak^{1} ga^{3} la^{3}
any one CL also okay SFP SFP
'Any one would do.'

b. keoi^{5} hai^{3} zoeng^{1}saam^{1} go^{3} daai^{6}-lou^{2} lei^{4} gaa^{3}
he BE Zoengsaam CL elder-brother SFP SFP
'He is Zeongsaam's elder brother.'

Since the MCN in (39) carries the speaker's intention to refer specifically to a specific doctor who wears glasses, uttering (40a) (saying any one would do) contradicts that intention. (40b), on the other hand, is compatible with the intention to refer in (39). Both (36), which contains a bare [Cl-N] phrase and (38), which contains a CMN, can be followed naturally by both (40a) and (40b).

In view of the above, I draw the following conclusion:

(41)
a. MCNs are always specific.
b. CMNs and [Cl-N] noun phrases are compatible with both a specific and a non-specific reading.

2.3 Conclusion

The following table summarizes the observations in section 2.1 and section 2.2:

[2] MCNs are always definite. See chapter 4 for discussion.

(42)

	Specific	Non-specific
[Cl-N]	√	√
[Cl-modifier-N] (CMN)	√	√
[modifier-Cl-N] (MCN)	√	X
[Nume-Cl-N]	√	√
[Nume-modifier-Cl-N] (IMN)	√	√
[modifier-Nume-Cl-N](OMN)	√	X

Let's call modifiers that appear to the left of the classifier 'outer modifiers'. The table shows that the non-specific reading is lost whenever an outer modifier is present. I would like to suggest that this is true for all Chinese languages, though in some Chinese languages (e.g. Mandarin), MCNs are not possible at all. When a modifier appears between the classifier and the noun, the range of interpretations remains the same. The generalization seems to be the following:

(43) When a Chinese noun phrase contains an outer modifier and if the resulting noun phrase is grammatical, it is obligatorily specific.

3. Similarities between demonstratives and outer modifiers

Demonstratives in Chinese are similar to outer modifiers in a number of ways. Position-wise, demonstratives are like outer modifiers in that they appear either preceding the classifier or preceding the numeral. I illustrate this with the Cantonese examples below:

(44) go^2 bun^2 syu^1
that CL book
'that book'

(45) go^2 saam^1 bun^2 syu^1
that three CL book
'those three book'

In addition to position, demonstratives and outer modifiers in Chinese are also similar in two aspects:

(46)
(i) A noun phrase containing either a demonstrative or an outer modifier is always interpreted as specific.
(ii) Neither demonstratives nor outer modifiers can be used with objects that have unique referents.

Noun phrases that contain demonstratives are always specific. Consider the following Cantonese sentence:

(47) ngo^{5} jat^{1} deng^{6} wui^{5} wan^{2} –dou^{2}
I surely will look-for-ASP
[**go^{2}** go^{3} hung^{1}sau^{2}] ga^{3}
that CL murderer SFP
'I am sure I will find that murderer.'

In order to use (47) felicitously, the speaker must have the intention to refer to some specific individual. In other words, demonstrative-containing noun phrases are always specific. This is the same as outer modifiers.

Another similarity between demonstratives and outer modifiers is that neither of them can be used with objects that have unique referents. Consider the following:

(48) * go^{2} go^{3} jyut^{6}loeng^{6} hou^{2} jyun^{4} wo^{3}
that CL moon very round SFP
Intended reading: '(lit.) That moon is very round.'

(49) * wong^{4}sik^{1} go^{3} jyut^{6}loeng^{6} hou^{2} jyun^{4} wo^{3}
yellow CL moon very round SFP
Intended reading: '(lit.) That yellow moon is very round.'

In sum, demonstratives and outer modifiers are similar in their position, their specific interpretation and in their inability to appear with objects that have unique referents.[3]

[3] Thomas Lee (p.c.) points out that there are cases in which the demonstratives are used with non-unique referents. Consider the followings:

(i) dak^{6} sau^{2} hai^{2} bin^{1} aa^{3}
chief executive locate where QP
'Where is the chief executive?'

(ii) go^{2} go^{3} dak^{6} sau^{2} hou^{2} zung^{1} ji^{3} daa^{3} bou^{1} taai^{1}
that CL chief executive very like wear bow tie
'That chief executive likes to wear a bow tie.'

In (i), *dak^{6} sau^{2}* 'chief executive' is used like a proper name. It refers rigidly to a particular person (i.e. Donald Tsang). If *dak^{6} sau^{2}* 'chief executive' is treated as a proper name, the question is why it can appear with the demonstrative as in (ii) without violating the claim that demonstratives are not compatible with nouns that have unique referents.

4. The proposal --- A Specificity Phrase (SP) in the Chinese nominal

4.1 The general proposal

In this section, I put forth the following proposal:

(50)
a. There is a Specificity Phrase (SP) in the Chinese nominal. It is located on top of the Classifier Phrase (intercepted by the Numeral Phrase when present).

b. Specificity is encoded in the S head. The projection of the Specific Phrase gives rise to a specific reading. Non-specific noun phrases lack this layer.

c. Demonstratives and outer modifiers are located in the SP layer.

In what follows, I will spell out the structures of different types of noun phrases. The term 'modifier' in the subsequent discussion refers to both marker modifiers and bare modifiers. In chapter 5, I will argue that marker modifiers in the SP layer are adjuncts and bare modifiers in the SP layer are specifiers. For ease of exposition, in the following structures, I will simply put all modifiers in SpecSP.

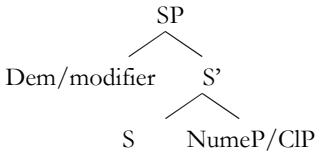
(I) [Dem/modifier-Cl-N] phrases and [Dem/modifier-Nume-Cl-N] phrases:

I suggest that demonstratives and outer modifiers are located in SpecSP, the presence of demonstratives and outer modifiers entails the presence of the SP layer. This would explain why noun phrases containing demonstratives and outer modifiers are always specific.

[Dem/modifier-Cl-N] phrases and [Dem/modifier-Nume-Cl-N] phrases have the following structure:

I suggest that in cases like (ii), *dak⁶ sau²* 'chief executive' is in fact used as a common noun (instead of a proper name) which denote a set of chief executives (past and present and future) and the demonstrative in that case carries out the deictic function of referring to a particular one of them. Moreover, the phrase *go² go³ dak⁶ sau²* 'that chief executive' is emphatic. It is comparable to English sentences like 'That Peter is so annoying', where a special emphasis is achieved combining *that* with a proper name.

(51)



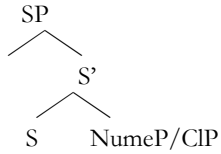
Specificity is encoded in the S head. The demonstratives and modifiers in SpecSP are there to assist the S head to refer to a particular referent in the discourse. This would explain why demonstratives and outer modifiers are not compatible with objects with unique referents. Objects with unique referents do not need any assistance in referring.

(II) [Cl-N] phrases and [Nume-Cl-N] phrases:

For unmodified [Cl-N] phrases and [Nume-Cl-N] phrases, the SP layer might or might not be present. This explains why [Cl-N] phrases and [Nume-Cl-N] phrases are ambiguous between a specific and a non-specific reading. When the SP layer is present but covert, the noun phrase is specific. When the SP layer is absent, the noun phrase is non-specific.

A specific [Cl-N] phrase or a [Nume-Cl-N] phrase would have the structure in (52). A non-specific [Cl-N] phrase and a non-specific [Nume-Cl-N] phrase would simply be a classifier phrase and a Numeral Phrase respectively, as in (53):

Specific:
(52)



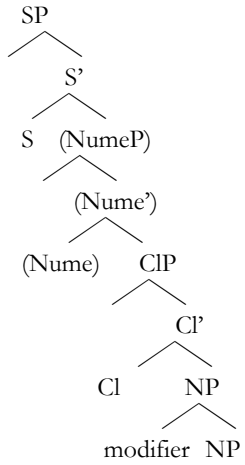
Non-specific:
(53) NumeP/ClP

(III) [Cl-modifier-N] phrases and [Nume-Cl-modifier-N] phrases:

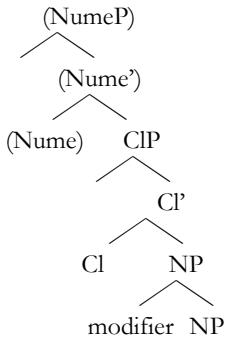
For [Cl-modifier-N] and [Nume-Cl-modifier-N] phrases, the modifiers are between the classifier and the noun, it is irrelevant for the presence or absence of the SP layer. I simply assume that the modifiers between the classifier and the noun are adjoined to the NP for now. The treatment of modifiers in Chinese in general will be discussed in chapter 5.

A specific [Cl-modifier-N] and a specific [Nume-Cl-modifier-N] phrase would have the structure in (54). A non-specific [Cl-Modifier-N] and a non-specific [Nume-Cl-modifier-N] would simply be a Classifier Phrase and a Numeral Phrase respectively, as in (55).

(54)



(55)



In both (54) and (55), the modifier is not in the SP layer. It does not assist the picking out of the referent. Rather, it modifies the property of the NP.

(IV) [modifier-N] phrases:

When a bare noun is modified, it is not possible to tell whether the modifier is in the SP layer or if it is placed between the classifier and the noun. There are three possibilities:

(56)
a. The modifier is in the SP layer.
b. The modifier is between the classifier and the noun. The SP layer is not projected.
c. The modifier is between the classifier and the noun. The SP layer is projected.

In the case in (56a), the [modifier-N] will have a specific reading and the modifier is there to assist the S head to pick out a referent. Imagine the following situation. A number of dogs are at the sidewalk and your dog suddenly starts walking across the road. Someone utters the following Mandarin sentence:

(57) nǐ de gǒu yào guò mǎlù
youMARKER dog want cross road
'Your dog(s) want(s) to cross the road.'

In this case, the possessor *nǐ de* 'your' helps to point to a specific dog.

In the case of (56b), the SP layer is not projected. Thus, the noun phrase is not referring. Such a usage is illustrated with the Cantonese example below:

(58) ngo^{5} zung^{1}ji^{3} do^{1}-mou^{4} ge^{3} gau^{2}
I like much-fur MARKER dog
'I like fluffy dogs.'

It is difficult to distinguish the usage between (56a) and (56c), both being specific. The only difference between the two is that, in the case of (56a), the modifier assists the picking out of the referent while in the case of (56c), the modifier modifies the property of the NP.

I suggest one possible usage of (56c) is the following. Imagine you are a boy scout and the leader asked you to get some medicine for camping from the pharmacy. You went to get it and then came back to report, with the following Cantonese sentence:

(59) ngo^{5} maai^{5}-zo^{2} heoi^{3} camp jiu^{3} jung^{6} ge^{3} joek^{6} la^{3}
I buy-ASP go camp need use MARKER medicine SFP
'I bought the medicine for camping.'

In this case, though the object of (59) does refer to a particular object (i.e. the medicine that the boy scout was ordered to buy). The modifier *heoi^{3} camp jiu^{3} jung^{6} ge^{3}* 'for camping' is not assisting in referring to the type of medicine since there is only one type in the context. I suggest that in such a usage, the modifier is placed between the classifier and the noun.

In the cases above, the difference between having the modifier in the SP layer and between the classifier and the noun is very subtle. However, there are cases in which the differences are more obvious. See chapter 5 for discussion.

(V) Predicative noun phrases:

Predicative noun phrases are non-specific, thus, the SP layer is never projected in a predicative noun phrase. This is shown by the observation that noun phrases involving the

demonstratives and outer modifiers (which entail the presence of the SP layer) cannot be interpreted predicatively. This is illustrated below with Cantonese examples:

(60) zoeng^{1}saam^{1} hai^{6} (jat^{1}) go baak^{6}ci^{1}
Zoengsaam BE one CL idiot
'Zoengsaam is an idiot.'

(61) *zoeng^{1}saam^{1} hai^{6} go^{2} (jat^{1}) go baak^{6}ci^{1}
Zoengsaam BE that one CL idiot

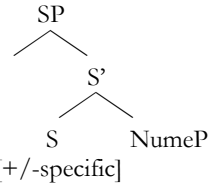
(62) *zoeng^{1}saam^{1} hai^{6}
Zoengsaam BE
zoek^{3} hung^{4}sik^{1} saam^{1} go^{3} baak^{6}ci^{1}
wear red shirt CL idiot^{4}

When a modifier appears between the classifier and the noun, the noun phrase can be used predicatively.

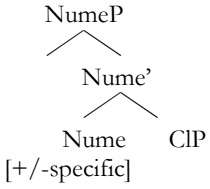
(63) zoeng^{1}saam^{1} hai^{6}
Zoengsaam BE
go^{3} zoek^{3} hung^{4}sik^{1} saam^{1} ge^{3} baak^{6}ci^{1}
CL wear red shirt MARKER idiot
'Zoengsaam is an idiot who wears red shirts.'

In the proposal presented above, I assume that the S head encodes specificity. The presence or absence of the SP layer determines the specificity value of the whole noun phrase. The former gives rise to a specific reading and the latter gives rise to a non-specific reading. In this system, the S head has a fixed [+specific] feature. There is, however, an alternative in the encoding of specificity, which is to use the binary contrast of [+/-specificity] on the S head. In this case, both specific and non-specific noun phrases will have the SP layer, the specification of the S head will determine whether the noun phrase is specific or not, as in (64). In fact, one could even put the specification on the head of the numeral phrase, without projecting the SP layer, as in (65).

(64)



(65)



[4] (62) can have an equative reading meaning 'Zoengsaam is the guy wearing a red shirt'.

In (64), the demonstratives and modifiers will be in SpecSP. In (65), the demonstratives and the modifiers are in SpecNumeP.

The observation that any proposal for Chinese has to account for is that whenever a modifier or a demonstrative appears to the left of the classifier or a numeral, the resulting noun phrase is obligatorily specific. In my proposal, the SP layer is only projected for specific noun phrases. Non-specific noun phrases lack this particular layer. Since SpecSP can only be filled if SP is projected in the first place, a filled SpecSP entails specificity.

In a system with binary features specification, one has to assume that only a [+specific] S head or a [+specific] Nume head would allow a filled spec. A [-specific] feature has the effect of banning the demonstrative or modifier to appear in its respective spec. In the case of demonstratives, the ban can be explained by assuming that demonstratives are inherently [+specific] and are thus incompatible with any [-specific] head. However, for modifiers, which do not contain any observable specificity value, the incompatibility between a [-specific] head and having modifiers in its spec has to be stipulated.

Due to this extra stipulation, I reject a binary feature analysis. I adopt the analysis that SP is only projected for specific noun phrases.

4.2 Differences between demonstratives and modifiers

In the proposal presented above, I assume that both demonstratives and outer modifiers occupy SpecSP, thus accounting for their similarities mentioned in section 3. However, demonstratives and modifiers also differ in a number of ways. With respect to their distribution, there are two differences between demonstratives and modifiers:

(66)
(i) The demonstrative has to be in the lowest spec.
(ii) In addition to the SP layer, modifiers can also appear between the classifier and the noun, while the demonstrative can only appear in the SP layer.

Let's start with (66ii).

A difference between demonstratives and modifiers is that the former are always deictic while the latter are not. The demonstrative is always 'pointing' while modifiers only 'point' if they are in the right domain, i.e. SP. For instance, modifiers don't 'point' when they are placed between the classifier, as illustrated in the following predicative nominal:

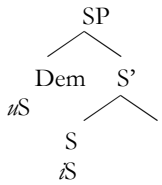
(67) keoi^{5} hai^{6} [go^{3} **fei^{4}** **ge^{3}** hok^{6}saang^{1}] (Cantonese)
he BE CL fat MARKER student
'He is a fat student.'

Taking that SP is the locus of specificity, it is compatible with the observation that the demonstrative has to be in the SP domain. Being inherently deictic, the demonstrative cannot be interpreted anywhere else. And since a demonstrative is not always needed for a referential noun phrase, I take it that it is the demonstrative that is 'special' in some way and needs to be in SpecSP in order for the derivation to converge.

Let's call the feature on the demonstrative *u*S, for an uninterpretable specificity feature. Let's further assume that the S head has a matching *i*S feature. The permanent *i*S feature on the S head makes sure that all SPs, once projected, are interpreted as specific noun phrases.

The demonstrative and the S head check features with each other, in the configuration of a spec-head relation.

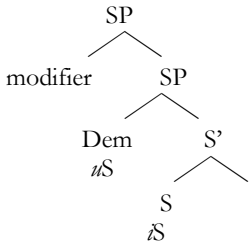
(68)



Modifiers, on the other hand, can appear in both SpecSP and between the classifier and the noun. This is because, unlike the demonstratives, modifiers do not come with an *u*S feature. Nothing forces them to be in a spec-head relation with the S head. They can thus appear both in the SP layer and between the classifier and the noun. Assuming that only uninterpretable features have to be checked, when SpecSP is filled with a modifier or unfilled, the *i*S feature in S would not cause any problem.

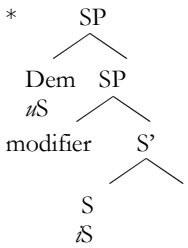
When both the demonstrative and the modifier are present, the demonstrative has to be in the inner spec. As mentioned above, only demonstratives but not modifiers have to enter a checking relation with the S head. The strict ordering between the demonstrative and the modifiers can be accounted for if one adopts the assumption that only the inner-(est) specifier can check features with the head. When both the demonstrative and the modifier(s) are present, the demonstrative has to be in SpecSP in order for the derivation to converge.

(69)



When the demonstrative is in the outer spec, the modifier is in SpecSP, no checking relation can be established between the demonstrative and the S head, thus, the derivation crashes.

(70) *



In addition to the differences in distribution, demonstratives and outer modifiers also differ in their contribution in assisting the process of referring. In Chinese, the demonstratives can be used in three different ways. The first way is the deictic use, where the demonstrative points to some entity in the surroundings. This usage is often accompanied by demonstration (discussed in Kaplan 1989). This is illustrated in (71). The second way is the anaphoric use, where the demonstrative points to some entity that has been introduced to the discourse previously (discussed in King 2001, Roberts 2002, among others). This is illustrated in (72). The third usage is rather like a combined use where a modifier is placed before the demonstrative, the demonstrative points to an entity that fits the description of the modifier. The referent can either be something that has previously been introduced to the discourse, as in (73), or it can refer to some entity in the surrounding. In the latter case, the expression can be accompanied by demonstration, as in (74).

(71) [Pointing to John]

go^{2}	go^{3}	naam^{4}jan^{2}	gam^{3} -gou^{1}	ge^{2}
that	CL	man	so-tall	SFP

'That man is so tall.

(72) gaak^{3}lei^{4} uk^{1} jau^{5} zek^{3} gau^{2}
next door house HAVE CL dog
go^{2} zek^{3} gau^{2} hou^{2} maa^{4}fan^{4} gaa^{3}
that CL dog very troublesome SFP
'There is a dog next door. That dog is very troublesome.'

(73) daai^{3} ngaan^{5}-geng^{2} go^{2} go^{3} naam^{4}zai^{2} zau^{2} -zo^{2} laa^{3}
wear glasses that CL boy go-ASP SFP
'That boy who wears glasses was gone.'

(74) [Pointing to a book]
m^{4}goi^{1} ngo^{5} soeng^{2} maai^{5} hung^{4}sik^{1} go^{2} bun^{2} syu^{1}
please I want buy red that CL book
'I want to buy that red book, please.'

For the first type, as in (71), it is the demonstration that accompanies the demonstrative that helps to pick out the referent. For the second type, as in (72), the demonstrative picks out the most recently mentioned potential antecedent. In other words, the demonstrative is anaphoric to the context (Roberts 2002). For the third type without demonstration, as in (73), the modifier preceding the demonstrative is providing the referent-picking information. For the third type with demonstration, as in (74), both the modifier as well and the gesture are providing the referent-picking information. In other words, in all cases, the demonstrative itself does not contain enough content to identify a referent. It relies on other material, be it a gesture, a previous sentence, which provides familiarity, or an accompanying modifier. Demonstrative-containing noun phrases are not 'self-sufficient' in identifying a referent. This marks a semantic difference between demonstratives and modifiers. In all cases of the use of demonstratives, demonstratives require the input of some content for identifying a referent. For modifiers, they are the content.

5. Some consequences of the proposal

In this section, I would address two consequences of my proposal. First, if the demonstratives occupy SpecSP, this entails that demonstratives in Chinese are phrasal, rather than heads. I will argue that this is indeed the case. Secondly, if demonstratives and modifiers are occupants of SpecSP, we may ask if there is any element that gets realized on the S head. I suggest that the answer is 'yes' and the evidence comes from Wenzhou.

5.1 The XP status of the demonstrative in Chinese

It has never been argued that the demonstratives are syntactically homogeneous across languages. Depending on the proposals and the languages that are used to motivate such proposals, demonstratives have been treated as X^{0}s (Abney 1987, Szabolsci 1994, McCloskey 2004, among others) or XPs (Giusti 2002, Willim 2000, among others). In other

words, there is a lot of variation in the treatment of the demonstratives in different languages and this suggests that not all demonstratives in all languages are alike. The question is then whether the Chinese demonstratives are more like heads or more like XPs. I argue that the Chinese demonstratives are XPs.

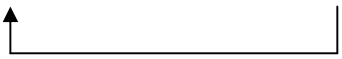
Evidence comes from N-initial noun phrases. In Chinese, N is always in phrase final position except, as far as I know, in one situation. Compare the following two Cantonese sentences (the noun phrases are with square brackets):

(75) ngo^5 maai^5 –zo^2 [saam^1 bun^2 syu^1],
I buy-ASP three CL book
[yat^1 zi^1 bat^1] tung^{4}maai^4 [loeng^5 zoeng^1 zi^2]
one CL pen and two CL paper
'I bought three books, one pen and two pieces of paper.

(76) ngo^5 maai^5 –zo^2 [syu^1 saam^1 bun^2],
I buy-ASP book three CL
[bat^1 jat^1 zi^1] tung^{4}maai^4 [zi^2 loeng^5 zoeng^1]
pen one CL and paper two CL
'I bought three books, one pen and two pieces of paper.'

In (75), the three noun phrases (in square brackets) are of the canonical order of [Nume-Cl-N] as opposed to the order in (76), [N-Nume-Cl], which is used in a listing context. For instance, (75) can be uttered felicitously if one is reporting what one bought after a shopping event. (75) and (76) do not differ in truth conditions but differ in focus. (75) is neutral while (76) puts focus on the bought items (rather than the cardinals). (76), in fact, sounds better if the N in the [N-Nume-Cl] phrases are stressed. It is also natural to have a pause after the stressed noun. Leaving aside how the focus effect arises and taking the noun phrases in (75) as the base form, the ordering of the noun phrases in (76) can be derived by movement of the noun to a c-commanding position:

(77) noun numeral classifier ~~noun~~



There is evidence to suggest that it is NP movement instead of N movement. Consider a contrast that is similar to the one between (75) and (76) above, as illustrated in (78) and (79). The noun phrases in question are marked by square brackets and the modifiers are in bold.

(78) ngo^{5} maai^{5} –zo^{2} [saam^{1} bun^{2} **gaau^{3} zyu^{2}sung^{3} ge^{3}** syu^{1}],
I buy-ASP three CL teach cooking MARKER book
[jat^{1} zi^{1} **hung^{4}sik^{1} ge^{3}** bat^{1}] tung^{4}maai^{4}
one CL red MARKER pen and
[loeng^{5} zoeng^{1} **wong^{4}sik^{1} ge^{3}** zi^{2}]
two CL yellow MARKER paper
'I bought three cooking books, one red pen and two pieces of yellow paper.'

(79) ngo^{5} maai^{5} –zo^{2} [**gaau^{3} zyu^{2}sung^{3} ge^{3}** syu^{1} saam^{1} bun^{2}],
I buy-ASP teach cooking MARKER book three CL
[**hung^{4}sik^{1} ge^{3}** bat^{1} jat^{1} zi^{1}]tung^{4}maai^{4}
red MARKER pen one CL and
[**wong^{4}sik^{1} ge^{3}** zi^{2} loeng^{5} zoeng^{1}]
yellow MARKER paper two CL
'I bought three cooking books, one red pen and two pieces of yellow paper.'

Similar to the contrast between (75) and (76), the noun phrases in (78) are of the canonical order [Nume-Cl-Mod-N] and sound neutral. The noun phrases in (79) have the atypical order of [Mod-N-Nume-Cl], an order that is only used in a listing context. The noun phrases in (79) share all the properties of the noun phrase in (76). The noun phrases in (79) put focus on the modifier-noun part, they sound better if the modifier-noun part of the noun phrase is stressed and a pause is expected after the noun. The similarities between the contrast between (75) and (76), and the contrast between (78) and (79) suggest that the noun phrases in (76) and (79) are derived by the same mechanism, with the noun phrases in (75) and (78) as the base forms. If (78) and (79) are related by movement rule, such movement has to be NP movement because the moved item contains a modifier. I conclude that in both (76) and (79), NP-raising has taken place within the noun phrase.

Tang (1996) discusses similar cases in Mandarin. She argues that it is problematic to analyze these cases as NP-raising. One of the problems she mentions is that when the phrase is definite, NP- raising is not possible. Examples (80) and (81) are from her, with (81) slight modified.

(80) tā mǎi-le shū$_{i}$ sān běn t$_{i}$
he buy-ASP book three CL
'(lit.) He bought books three.'

(81) * tā mǎi- le shū$_{i}$ zhè yī běn t$_{i}$
he buy-ASP book this one CL

Tang (1996) also notes that there is an asymmetry between QP modifiers (by which she means numerals) and non-QP modifiers (e.g. possessors).

(82) *tā mǎi- le shū nǐ de t_i
he buy-ASP book you MARKER

The Cantonese counterparts of (81) and (82) are also not grammatical.

Tang (1996) argues that the raising account is on the wrong track. She proposes that the object noun phrase in (80) consists of a post-verbal object noun phrase *shū* 'book' and its predicate *sān běn* 'three'. The 'definiteness effect' in NP-raising is expected as only certain elements can be the predicates of noun phrases and non-referentiality is one of the governing conditions on such elements. The following examples are from Tang (1996).

(83) a. I consider him a fool.
b. *I consider him the/that fool.

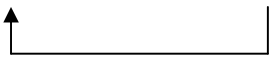
In other words, the definiteness of the demonstrative in (81) prevents the [Dem-one-Cl] sequence to be a proper predicate, accounting for the ungrammaticality in (81).

In order to account for the ungrammaticality of (82), she has to stipulate that in acting as a predicate in the above type of construction, QP or other kind of XPs cannot take the modifying marker *de*. In other words, (81) and (82) are ruled out for different reasons.

I would like to propose that using an NP-raising account can also rule out (81), given the assumption that the demonstrative is a maximal projection.

Consider the noun phrase in (81) again in terms of NP-raising, as illustrated below:

(84) * $shū_i$ zhè yī běn t_i
book this one CL



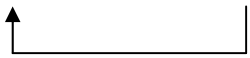
As mentioned earlier, the N-initial noun phrases have a focus effect. I assume that the landing site of the NP is an A' position. I also assume that SpecSP is an A' position in the sense that it is neither a case position nor a thematic position. Granting these two assumptions, the movement in (84) will be blocked in the spirit of the Minimal Link Condition (MLC) (Chomsky 1995), since the movement is not targeting the closest potential position.

(85)
The Minimal Link Condition (Chomsky 1995)

a can raise to target K only if there is no legitimate operation Move-b targeting K, where b is closer to K;
(where 'closer' is defined in terms of c-command and equidistance).

The same reasoning can also rule out (82), the noun phrase in (82) is repeated here as (86):

(86) *shū nǐ de t_i
book you MARKER



The modifier *nǐ de* is presumably not a head. Assuming that the modifier is an adjunct to the NP (an assumption that will be defended in chapter 5), the movement of the NP as depicted in (86) will move across an A' position (the adjoined modifier). Again, (86) can be ruled out in the spirit of MLC.

In other words, assuming that demonstratives are maximal projections in an A' position, the ungrammaticality of (81) and (82) can both be accounted for in terms of MLC.

In view of the N-initial Chinese noun phrases, where the raising of the NP can be blocked by either the demonstrative or a modifier (which is a maximal category), I conclude that Chinese demonstratives are maximal projections in SpecSP.

5.2 The realization of the S head

In Wenzhou, [Cl-N] phrases are indefinite, unless the classifier changes into a dipping tone.[5]

(87) dou^2 kau^3
CL dog
'a dog'

(88) dou^8 kau^3
CL dog
'the dog'

There are 8 tones in Wenzhou, which can be divided according to the four Middle Chinese tonal categories (with different contours). Each is then sub-divided into two registers, as shown below (Chen 2000, You 2003, Cheng & Sybesma 2005):

[5] 'It is extremely common to find tone used inflectionally, to mark case, definiteness, or referentiality (see Blanchon 1998 on Kongo)…' (Yip 2002, p.115)

(89)

Contour	Level	Rising	Falling	Dipping
High register	1(33)	3(35)	5(42)	7(313)
Low Register	2(31)	4(24)	6(11)	8(212)

The original tone of the classifier for dog, *dou*, is 2. When the classifier keeps its original tone in a [Cl-N] phrase, the phrase is indefinite (as in (87)); when the classifier changes into a dipping tone 8, the phrase can only be definite (as in (88)). When a classifier changes tone, it changes to a dipping contour while keeping its original register, e.g. 3 → 7, but not * 3 → 8. In subsequent discussion, I would use the term 'dip' to represent the dipping tone.

In Chinese, indefinite noun phrases are generally barred from subject position. Thus, the definiteness values of the above phrases can be verified by the fact that they can appear in subject position:

(90)* dou^{2} kau^{3} i^{5} tshi^{7} ŋiou^{8}
CL dog want eat meat
Intended reading: 'The dog wants to eat meat.'

(91) dou^{8} kau^{3} i^{5} tshi^{7} ŋiou^{8}
CL dog want eat meat
'The dog wants to eat meat.'

I argue that the dipping tone is the realisation of the S head based on two pieces of evidence. The first piece of evidence comes from [Nume-Cl-N] phrases in Wenzhou. The second piece of evidence comes from the interaction between the dipping tone and marker modifiers.

1st piece of evidence: Indefinite [Nume-Cl-N] phrases

Cheng & Sybesma (2005) propose that the dipping tone in Wenzhou is the realisation of the iota operator (ι) (which gives rise to definiteness in the classifier head). They suggest that the dipping tone must be attached to a phonologically rich matrix, a segment, in order to be realised. In this case, the floating tone attaches itself to the classifier at PF.

There is, however, evidence to show that their formulation is not right. The dipping tone is located higher than the classifier.

For Cheng & Sybesma (1999, 2005), [Cl-N] phrases are always definite and indefiniteness is encoded by having a Numeral Phrase, which is inherently indefinite, on top of the Classifier Phrase.

(92) [Indefinite [Definite]]

[Nume [Cl-N]]

If this schema in (92) is correct, one would expect an indefinite noun phrase in Wenzhou involving a numeral to have the following realization, where the classifier has changed from its original tone to a dipping tone:

(93)* sa^{1} dou^{8} kau^{3}k
three CL dog
'three dogs'

As indicated by the *, (93) is not possible. In fact, in Wenzhou, whenever a numeral is present, the classifier cannot change tone. 'three dogs' in Wenzhou is (94):

(94) sa^{1} dou^{2} kau^{3}k
three CL dog
'three dogs'

This shows that either the way of the encoding of indefiniteness in Cheng & Sybesma (1999), as shown in (92), is wrong, or the dipping tone in Wenzhou is not on the classifier head as they suggest. I argue that the dipping tone in Wenzhou is located somewhere higher than the classifier. Evidence comes from the interaction between the dipping tone and marker modifiers.

2nd piece of evidence: The interaction between the dipping tone and marker modifiers

In Cantonese, Mandarin and Wenzhou, marker modifiers can appear to the immediate left of the numeral and the demonstrative, but it is ungrammatical to have a marker modifier appearing to the immediate left of the classifier.

Marker modifier appearing to the immediate left of the demonstrative or the numeral:

(95) a. hung^{4}sik^{1} ge^{3} (lei^{1}) saam^{1} bun^{2} syu^{1} (Cantonese)
red MARKER this three CL book

b. hóngsè de (nà) sān běn shū (Mandarin)
red MARKER that three CL book

c. ə^{1}tsə^{1} gə^{0} ki^{7} sa^{1} dou^{2} kau^{3} (Wenzhou)
dirty MARKER this three CL dog

Marker modifiers cannot appear to the immediate left of the classifier:

(96) a. *hung^{4}sik^{1} ge^{3} bun^{2} syu^{1} (Cantonese)
red MARKER CL book

b.* hóngsè de běn shū (Mandarin)
red MARKER CL book

c. * ə^{1}tsə^{1} gə^{0} dou^{2} kau^{3} (Wenzhou)
dirty MARKER CL dog

However, in Wenzhou, the marker modifier can appear to the immediate left of the classifier, as long as the classifier is changed to a dipping tone:

(97) ə^{1} tsə^{1} gə^{0} dou^{8} kau^{3}
dirty MARKER CL dog

According to Rujie You (p.c.), (97) has a very similar meaning to (98) below, where a proximal demonstrative is present:

(98) ə^{1} – tsə^{1} gə^{0} ki^{7} dou^{2} kau^{3}
dirty MARKER this CL dog

This may suggest that the dipping tone is like a proximal demonstrative (as suggested in You 2003 and his previous works). One piece of evidence to support this is the prohibition of co-occurrence of the dipping tone and the distal demonstrative:

°(99) * ə^{1}tsə^{1} gə^{0} ɕi^{3} dou^{8} kau^{3}
dirty MARKER that CL dog
Intended meaning: 'that dirty dog.'

(100) ə^{1}tsə^{1} gə^{0} ɕi^{3} dou^{2} kau^{3}
dirty MARKER that CL dog
'that dirty dog'

However, the dipping tone cannot be exactly the same thing as the proximal demonstrative because firstly, they can co-occur:

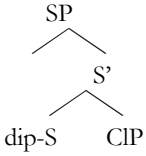
(101) ə^{1}tsə^{1} gə^{0} ki^{7} dou^{8} kau^{3}
dirty MARKER this CL dog
'this dirty dog'

Secondly, even though the dipping is not compatible with the numeral, the proximal demonstrative *ki*^{7} is.

(102) ki^{7} sa^{1} dou^{2} kau^{3}
this three CL dog
'these three dogs'

Based on the above, I would like to claim that the dipping tone, in fact, is realized on the S head.

(103)



The dipping tone gets attached to the classifier at PF (Cheng & Sybesma 2005).

Note that the projection of the SP layer is for encoding specificity and the SP layer does not have to be filled in order to give rise to a specific reading. The definite reading of the dipping tone arises from some other mechanism, which will be made explicit in chapter 4. The point being argued here is that the dipping tone is realized on the S head.

6. Conclusion

In this chapter, I motivate the postulation of a Specificity Phrase to the left of the Classifier Phrase (or the Numeral Phrase when present) in the Chinese nominal on the ground that whenever a modifier (or a demonstrative) appears to the left of the classifier (or numeral), the noun phrase is obligatorily specific. I suggest that both demonstratives and modifiers are in SpecSP, which carries the consequential claim that the demonstratives are XPs in Chinese rather than heads. I argue for the XP status of the demonstratives in Chinese by showing that they block A' raising of an NP. The presence of the Specificity Phrase is further confirmed by the dipping tone in Wenzhou, which arguably is the realization of the S head.

Chapter 4 The encoding of definiteness in Chinese

1. Introduction

In the last chapter, I postulated a Specificity Phrase (SP) in the Chinese nominal, the head of which encodes specificity. Specific noun phrases can be either definite or indefinite. The question arises as how the S head is related to the encoding of definiteness. In this chapter, I propose a theory that connects the Specificity Phrase with the encoding of definiteness in the Chinese noun phrase. The theory I am proposing here makes use of the following ideas:

(1)

a. Definiteness is encoded in the classifier (Cheng & Sybesma 1999). Classifiers come out of the lexicon either carrying a [+def] value or carrying no definiteness value.
b. Numeral Phrases are inherently [-def] (Cheng & Sybesma 1999).
c. The S head is unspecified for definiteness when it comes out of the lexicon.
d. The S head and the classifier interact via the operation Agree. If the S head is specified as definite after Agree, either SpecSP or the S head, or both have to be made phonologically 'visible'. If the S head remains unspecified, it receives an indefinite interpretation by a default LF rule. In such a case, neither SpecSP nor the S head can be made visible.

This chapter is divided into three big sections. In section 2, I will spell out my assumptions. Taking these assumptions as the backdrop, in section 3, I will sketch out my proposal and spell out the structures for different types of noun phrases in Chinese, taking into account the encoding of specificity, definiteness as well as variations across Chinese languages. In section 4, I will discuss some loose ends of the proposal. I conclude the chapter in section 5.

2. Assumptions

2.1 The S head 'visibility' condition

In this sub-section, I present an observation that suggests that there is some interaction between an S head that is specified as definite and the filling of the SP layer with overt elements. This observation is concerned with the following construction:

(2) [bare modifier-Cl-N]

Following the terminology in chapter 3, I continue to refer to the sequence in (2) as an MCN (bare modifier-Classifier-Noun). In chapter 3, I did not make a distinction between bare modifiers and marker modifiers when exploring the effects of outer modifiers on the referential interpretation of noun phrases. In this chapter, the distinction is important for

part of the discussion, as it will unfold later. In an MCN, the modifier, crucially, is a bare modifier.

Not all Chinese languages permit MCNs. For instance, Mandarin does not have MCNs. In Chinese languages that permit MCNs, MCNs are very common. The modifiers in MCNs can be of different categories. They can be possessors, locatives, relative clauses, color terms, temporal nominals, etc. The following examples are from Cantonese:

Possessors:

(3) nei^{5} jau^{5} -mou^{5} gin^{3} -dou^{2} ngo^{5} bun^{2} syu^{1} aa^{3}?
you have-not-have see I CL book SFP
'Have you seen my book?'

Locatives:

(4) ngo^{5} sai^{2} -zo^{2} toi^{2}-soeng^{6}-min^{6} daat^{3} zik^{1} laa^{3}
I clean-ASP desk-top-surface CL stain SFP
'I have cleaned the stain on the desk.'

Relative clauses:

(5) nei^{5} jau^{5} -mou^{5} gin^{3}-dou^{2}
you have-not-have see
ngo^{5} kam^{4}jat^{6} maai^{5} bun^{2} syu^{1} aa^{3}?
I yesterday buy CL book SFP
'Have you seen the book I bought yesterday?'

Color terms:

(6) nei^{5} jau^{5} –mou^{5} gin^{3} -dou^{2} hung^{4}sik^{1} bun^{2} syu^{1} aa^{3}?
you have-not-have see red CL book SFP
'Have you seen the red book?'

Temporal nominals:

(7) ngo^{5} tao^{4}sin^{1} jau^{6} gin^{3}-dou^{2} kam^{4}jat^{6} go^{3} naam^{4}jan^{4} laa^{3}
I just again see yesterday CL man SFP
'I just saw the man (from) yesterday again.'

Modifiers differ in their degree of acceptability in an MCN. Of all the above, possessors and locatives sound most natural in an MCN phrase. Relative clauses vary in their degree of acceptability in an MCN. I will mostly use possessor modifiers for illustrative purposes. Unless stated otherwise, one should assume that all other modifier types mentioned above behave similarly.

2.1.1 Two observations and how they are related

There are two observations about MCNs that are of interest here:

Observation 1: MCNs are always definite.
Observation 2: MCNs are possible in Cantonese and Wenzhou, but not in Mandarin.

I illustrate observation 1 and observation 2 below with possessor modifiers.

MCNs are possible in Cantonese and Wenzhou and they are always interpreted as definite, as shown in (8).[1]

(8) a. ngo^{5} bun^{2} syu^{1} (Cantonese)
I CL book
'My book'

b. ŋ̍^{4} paŋ$^{3/dip}$ sɿ^{1} (Wenzhou)
I CL book
'My book'

[1] Thomas Lee (p.c.) points out that there are cases in which a [bare modifier-Cl-N] phrase (MCN) gives rise to a kind reading if the classifier is plural. This is illustrated as follows:

(i) ngo^{5} jiu^{3} wan^{2} [ho^{4} laan^{1} ceot^{1}caan^{2} di^{1} sau^{2} tai^{4} din^{6} waa^{2}]
I need look-for Holland produce CL$_{pl}$ mobile-phone
'I want to find mobile phones produced in Holland.'

Though a satisfactory answer to cases like (i) is not at hand, a few comments are in order here. Firstly, a definite reading of the noun phrase in brackets in (i) is also available given a suitable context. Imagine one has a store that sells mobile phones and the owner is looking for those that are produced in Holland. The owner can then felicitously utter the following:

(ii) [ho^{4} laan^{1} ceot^{1}caan^{2} di^{1} sau^{2} tai^{4} din^{6} waa^{2}] le^{1}?
Holland produce CL$_{pl}$ mobile-phone QP
'Where are the mobiles phones produced in Holland?'

In other words, the question is why sometimes a kind reading can also arise from an MCN, on top of the definite reading. Secondly, it has been observed that [Cl-(modifier)-N] phrases, when the classifier is *di*^{1}, can also give rise to a kind reading (Au Yeung 1996, Cheng & Sybesma 1999). This kind reading is not possible with regular singular classifiers. This suggests that the kind reading in (i) has to do with *di*^{1} rather than having to do with MCN phrases.

The dipping tone in Wenzhou, as argued in chapter 3, is an element that marks definiteness but also contains proximity as its semantic content. However, it is categorically different from the proximal demonstrative because firstly, the dipping tone and the proximal demonstrative can co-occur; secondly, the dipping tone is not compatible with the presence of a numeral but the proximal demonstrative is. I analysed the dipping tone as a possible realisation of the S head (when definite) in chapter 3.

In Mandarin, MCNs are not possible:

(9) *wǒ běn shū (Mandarin)
I CL book
Intended reading: 'My book'

I would like to suggest that observation 1 and observation 2 are in fact related in a meaningful way. It seems that MCNs are only possible in a language where [Cl-N] phrases can be interpreted as definite.

In Cantonese, [Cl-N] phrases can be either definite or indefinite (Cheng & Sybesma 1999, 2005). The noun phrases in question are in boldface:

(Examples (10), (11) and (12) are from Cheng & Sybesma 1999)

(10) ngo^{5} soeng^{2} maai^{5} **bun^{2} syu^{1}** lei^{4} tai^{2}
I want buy CL book come read
'I want to buy a book to read.'

(11) Wu^{4}fei^{1} jam^{2} –jyun^{4} **wun^{2} tong^{1}** la^{3}
Wufei drink-finish CL soup SFP
'Wufei finished the soup.'

In Mandarin, [Cl-N] phrases are only indefinite (Cheng & Sybesma 1999, 2005):

(12) wǒ xiǎng mǎi **běn shū**
I want buy CL book
'I want to buy a book.'

(13) *tā hē -wán -le **wǎn tāng**
He drink-finish-ASP CL soup
Intended reading: 'He finished the soup.'

In Wenzhou, [Cl-N] phrases can be definite if the classifier changes from its original tone to a dipping tone (Cheng & Sybesma 2005).

(14) ŋ̍^{4} ɕi^{3} ma^{4} **paŋ^{3}** **sɿ^{1}**
I want buy CL book
'I want to buy a book'

(15) ŋ̍^{4} ɕi^{3} ma^{4} **paŋ^{dip}** **sɿ^{1}**
I want buy CL book
'I want to buy the/this book'

The availability of a definite reading of [Cl-N] phrases and the possibility of MCN phrases in the three languages are shown in the table below:

(16)

[Cl-N]	Definite	Indefinite	MCN phrases [bare modifier-Cl-N]
Cantonese	✔	✔	✔
Mandarin	✘	✔	✘
Wenzhou	✔ (with a tone changed classifier)	✔ (without a tone changed classifier)	✔ (with or without a tone changed classifier)

If one looks at the second column (the 'definite' column) and the fourth column (the MCN column), one notices that the MCN phrases are only available in a language in which a definite reading of the [Cl-N] phrase is available. This observation can be stated as follows:

(17) Restriction on grammatical MCN phrases:
An MCN phrase, [bare modifier-Cl-N], is only possible iff the bare [Cl-N] phrase in the MCN can be interpreted as definite independently.

The term 'bare' in (17) is used pre-theoretically. It refers to surface strings.

A very similar observation has been made earlier by Cheung (1989), based solely on Cantonese and Mandarin data. Cheung (1989) claims that in Cantonese, it is possible to put relative clauses, color terms and possessors immediately before a classifier because the classifier in Cantonese can express definiteness. In Mandarin, the classifier cannot express definiteness and as a consequence, no relative clauses, color terms or possessors can appear immediately before the classifier. As shown earlier on, in addition to Cantonese and Mandarin, Wenzhou also confirms (17). Moreover, the elements that can precede a definite [Cl-N] phrase are not limited to relative clauses, color terms and possessors, modifiers like locatives and temporal nominals also behave in the same way. In what follows, I would provide further support for (17) using data from Taiwanese Southern Min and Hailu Hakka.

In both Hailu Hakka and Taiwanese Southern Min, [Cl-N] phrases cannot be interpreted as definite, and confirming (17), [bare modifier-Cl-N] phrases are not possible in the two languages. Examples are given below[2]:

Hakka:
(18) a. *pun^{33} shu^{51}
CL book
Intended reading: 'the book'

b.*ngai^{55} pun^{33} shu^{51}
I CL book
Intended reading: 'my book'

Taiwanese Southern Min:
(19) a. *pun^{55} cheh^{33}
CL book
Intended reading: 'the book'

b. *gua^{55} pun^{55} cheh^{33}
I CL book
Intended reading: 'my book'

Now, let's turn to the connection between the observation stated in (17) and the obligatory definite reading of MCN phrases.

A possible way of understanding the obligatory definite value of MCN phrases is that only definite [Cl-N] phrases allow a bare modifier to the left of the classifier to form an MCN. This would co-relate the observation in (17) with the obligatory definite reading of MCN phrases.[3] The definite reading of the whole MCN phrase is due to the definiteness of the [Cl-N] modified items.

---

[2] Thanks to Feng-fan Hsieh for the Hailu Hakka and Taiwanese Southern Min data.

[3] Au Yeung (1997) takes a different track in accounting for the definite interpretation of [bare modifier-Cl-N] (MCN) phrases in Cantonese and the impossibility of having them in Mandarin. He discusses two types of modifiers, possessors and relative clauses (RC). In brief, his analysis is built upon two ideas. The first idea is that there is a parameter that states that in Cantonese, the classifier can be specified as either [+def] or [-def]. In Mandarin, the classifier cannot be specified as [+def]. The second idea is that the definite reading of an MCN comes from the modifier. In a [possessor-Cl-N] phrase in Cantonese, the definite possessor in SpecClP specifies the classifier head as [+def]. As a consequence, the whole noun phrase is definite. In a [RC-Cl-N] phrase in Cantonese, he assumes that finite RCs are definite, thus, a finite RC in SpecClP can also specify the classifier as [+def]. In Mandarin, since the classifier cannot be specified as [+def], the classifier is incompatible with the definite possessor/finite RC in SpecClP. The incompatibility causes ungrammaticality. Au Yeung's (1997) analysis faces a number of problems. For instance, modifiers like locatives, temporal nominals

This can be stated as in (20):

(20) a. An MCN phrase, [bare modifier-Cl-N], is only possible iff the bare [Cl-N] phrase in the MCN can be interpreted as definite independently. (=(17))

b. The obligatory definite reading of MCN phrases is due to the definite reading of the [Cl-N] phrase within it.

It is, in other words, the modified item that determines the definiteness of the whole phrase.

2.1.2 The overtness requirement of a definite S head

As pointed out in chapter 2, in Wenzhou, for a bare [Cl-N] phrase to be interpreted as definite, the tone of the classifier has to change into a dipping tone, as shown in (21) and (22). But in an MCN in Wenzhou, the classifier may or may not change into a dipping tone.

(21) paŋ^{3} sɿ^{1}
CL book
'a book'

(22) paŋ^{dip} sɿ^{1}
CL book
'the book'

(23) ŋ̍^{4} paŋ$^{3/dip}$ sɿ^{1}
I CL book
'My book'[4]

---

and colour terms can also appear in an MCN and it is not immediate clear why these modifiers types are definite. Moreover, the analysis wrongly predicts that it is possible to have an indefinite possessor or a non-finite RC immediately precedes a [Cl-N] sequence in Mandarin and Cantonese, giving rise to an indefinite reading.

[4] Rujie You (p.c.) points out that in cases like (23), whether the tone of the classifier changes or not is subject to different usages. Imagine the following situation. You are having dinner with a friend and your dog is not around and you want to tell your friend that you like your dog. You can only use example (i) below but not (ii):

(i) ŋ̍^{4} si^{3}ɕy^{1} ŋ̍^{4} dvu^{2} kau^{3}
I like I CL dog

(ii) ŋ̍^{4} si^{3}ɕy^{1} ŋ̍^{4} dvu^{8} kau^{3}
I like I CL dog

Assuming it is true that in an MCN, the modified [Cl-N] phrase is always definite. It is puzzling as to why in an MCN in Wenzhou, the classifier does not have to obligatorily change tone to encode definiteness. It seems to suggest that when a modifier is present, the tone changing is optionally obliterated.

I suggest that the presence of a modifier and the optional exemption of the tone change on the classifier can be related by a requirement that can be stated as follows:

(24)
The S head 'visibility' condition
If the S head is specified as definite, the SP layer has to be made phonologically overt by filling either the spec or the head, or both.

Since both definite and indefinite noun phrases can be specific, I assume that the S head can be either specified as definite or indefinite. The SP only has to be made phonologically overt when the S head is specified as definite. For ease of exposition, I will refer to (24) as the 'visibility' condition. This 'visibility' condition is reminiscent of a number of proposals in the general direction that a functional layer has to be made visible by inserting lexical items. Dimitrova-Vulchanova & Giusti (1998) account for the complementary distribution between possessive adjectives/ demonstratives and articles by proposing the following condition:

(25) Principle of economy of lexical insertion
A functional projection must be licensed at all levels of representation by
a. Making the specifier visible.
b. Making the head visible.

A similar idea is Fukui & Sakai's (2002) visibility guideline for functional categories:

(26) The visibility guideline for functional categories
A functional category has to be visible (i.e. detectable) in the primary linguistic data.

(26) states that functional categories must be made visible/detectable at PF. For a functional category to be visible at PF, there are three ways. The first one is simply to have phonetic content and to be pronounced. The second way is to trigger movement of a

---

In other words, the tone changing of the classifier is not optional considering the semantic differences. The interesting point that is relevant for the discussion in this chapter, however, is not the difference in interpretation between (i) and (ii), but rather why is it possible to not have a tone-changed classifier in the presence of a modifier and yet have a definite reading.

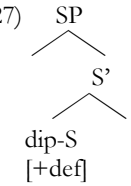
phrasal projection, thus altering the canonical order. The third way is to affect the shape of a neighboring head, generally via head movement.

Details aside, these proposals share the idea that the grammar seems to have a rule that forces functional projections to announce their presence. There is, however, one difference between the 'visibility' condition as it is formulated here and the other proposals above. The difference is that in Chinese, the SP layer only has to be made 'visible' when the S head is definite.

Now, let's take a look at how the 'visibility' condition is satisfied in [Cl-N] phrases and MCNs in Wenzhou, Cantonese and Mandarin.

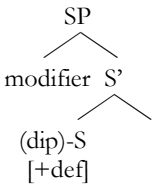
In a definite [Cl-N] phrase in Wenzhou, a dipping tone is inserted in S to make the SP layer visible. The dipping tone subsequently gets attached to the classifier at PF.

(27)



In a Wenzhou MCN phrase (which is always definite), the modifier on its own can satisfy the 'visibility' condition. The dipping tone does not have to be inserted. Consequently, the classifier may or may not change into a dipping tone.

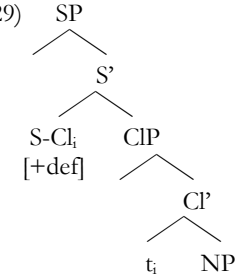
(28)



The possibility of inserting the dipping tone even when there is a modifier in SpecSP indicates that both the SpecSP and the S head can be filled at the same time.

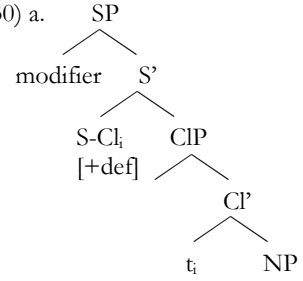
The use of a dipping tone is an idiosyncrasy of Wenzhou. In Cantonese, for instance, the lexicon makes no provision for a dipping tone. In a definite [Cl-N] phrase in Cantonese, assuming that the 'visibility' condition also holds, the classifier has to be the element that moves to the S head to satisfy the 'visibility' condition.

(29)

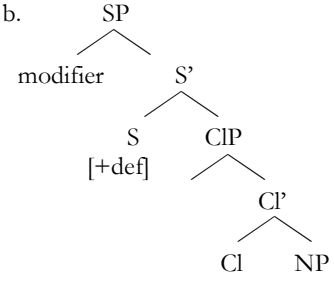


In an MCN in Cantonese, the modifier is in SpecSP, there is no need for the classifier to move up. However, as indicated in Wenzhou, both SpecSP and the S head can be filled at the same time. I assume that in an MCN in Cantonese, the classifier may optionally move to the S head.

(30) a.



b.



In Mandarin, a [Cl-N] phrase can never be interpreted as definite, meaning that the S head can never be specified as definite in a [Cl-N] phrase. Since the 'visibility' condition holds of noun phrases with a definite S head, there is no need to fill the SP layer in a Mandarin [Cl-N] phrase. Since MCNs are not possible in Mandarin, this suggests that when the S head is not specified as definite, in fact nothing can appear in SpecSP. I assume that neither the S head nor SpecSP can be filled when the S head is not specified as definite. The S head 'visibility' condition can be revised as follows:

(31)
The S head 'visibility' condition
(i) If the S head is specified as definite, the SP layer has to be made phonologically overt by filling the spec, the head or both.
(ii) If the S head is not specified as definite, no phonologically overt element can appear in either SpecSP or the S head.

The SP layer is projected for specific noun phrases. Thus, indefinite noun phrases also project the SP layer. The 'visibility' condition in (31) states that when the S head is indefinite,

the SP layer cannot be made 'visible'. I suggest that this can be understood as a contrast between a specified and an unspecified S head. The S head is always [+specific]. With respect to definiteness, however, the S head is either unspecified or it is specified with a [+def] value. When it is specified with a definite value, the grammar requires the SP layer to be made phonologically 'visible'. When the S head is unspecified for definiteness, there is no need to make the SP layer 'visible'. The unspecified S head will then get 'indefinite' as a default value at LF by some default rule.

The S head 'visibility' condition can be revised as follows:

(32)
The S head 'visibility' condition
(i) If the S head is specified as definite, the SP layer has to be made phonologically overt by filling the spec, the head or both.
(ii)If the S head is not specified with respect to definiteness, no phonologically overt element can appear in either SpecSP or the S head.

The requirement that the SP layer has to be overtly filled is sensitive to the presence or absence of the phonological content of the element that is doing the 'filling' job. Thus, the fulfillment of the 'visibility' condition cannot be an LF operation. It also can't be a PF operation due to my analysis of the dipping tone in Wenzhou. In Wenzhou, the dipping tone that gets inserted in S has semantic content (proximity and demonstrativity). If it is simply a PF rule, it is unclear how a semantically loaded element can be inserted at PF. It will also violate the inclusiveness condition (Chomsky 1995 and subsequent work). The 'visibility' condition has to take place in narrow syntax. Furthermore, the 'visibility' condition simply requires that the presence of a definite SP layer has to be announced overtly. Any element, as long as that it has phonological content, can satisfy the requirement.[5]

2.2 The two referential layers in Chinese

Cheng & Sybesma (1999, 2005) have shown that the interpretation of bare nouns and [Cl-N] phrases in various Chinese languages differs. Their findings are summarized in the following tables:

[5] In my formulation, the 'visibility' condition can drive movement. To let a well-formedness condition to drive movement is undesirable with respect to the current framework, where movements are generally driven by features. To implement the intuition that there is only a need to fill either the spec or head of SP when the S head is specified as definite and at the same time adhere to only feature-driven movements, one can implement the 'visibility' condition using an EPP feature. For instance, one can say that a [+def] value always come with an EPP feature.

(33)
a. Bare nouns

	Definite	Indefinite
Cantonese	X	√
Mandarin	√	√
Wenzhou	√	√

b. [Cl-N] phrases

	Definite	Indefinite
Cantonese	√	√
Mandarin	X	√
Wenzhou	√ (if the classifier changes into a dipping tone)	√

The two questions to answer are firstly why is it the case that in Mandarin, a [Cl-N] phrase can never be interpreted as definite; secondly why is it that in Cantonese, a bare noun cannot be interpreted as definite. Furthermore, Cheng & Sybesma (1999, 2005) observe that in Cantonese, Mandarin and Wenzhou, all [Nume-Cl-N] phrases are indefinite. In view of my proposal of the SP layer, the questions are reformulated into how to make sure that the S head in a [Cl-N] phrase in Mandarin, a bare noun in Cantonese as well as the S head in a [Nume-Cl-N] phrase can never be specified as definite. The restriction on definiteness interpretation suggests that the specification of the S head is dependent on some other factors. The possibility I would like to entertain is that the S head gets its specification from elements lower down in the structure and the interplay between the S head and those lower elements pose restrictions on the specification of the S head. In particular, I would like to suggest that in the Chinese nominal, there are two referential layers (R layers), one higher and one lower. The higher one is the SP layer. Following Cheng & Sybesma (1999, 2005), I assume that the classifier head encodes definiteness. The Classifier Phrase is the lower R layer.

The idea that there are two R layers in the noun phrase is not novel. In fact, different proposals have been put forth bearing variations of the same idea, though these proposals arrive at the same conclusion via quite different routes. I will briefly mention some of the work below.

Szabolcsi (1994) proposes that there are two D-related layers in the nominal based on Hungarian data: a DP that heads the topmost FP and a DetP that is closer to the lexical core. The D head hosts articles: *a(z)* 'the' or Ø 'a, some'. The articles act as subordinators in the sense that they enable the noun phrase to function as arguments. DetP determines both the quantification and definiteness of the noun phrase. It hosts quantificational

elements like *minden* 'every', *kevés* 'few' and *semelyik* 'neither' or the demonstratives *e*, *eme*, *ezen* 'this', *ama*, *azon* 'that'. The DP layer and the DetP layer are related in the following manner: Articles like *a(z)* 'the' or Ø 'a, some' are selected for D in agreement of the (in)definiteness determined by Det.

Hoekstra & Hyams (1996), drawing a parallel between the clausal and nominal domain, propose that there is a counterpart of tense in the nominal, call it X. The deictic operator, representing the speech environment, binds a variable in X. This 'interaction' between the operator and X determines the referential properties of the DP as a whole.

(34) OP D NUM [$_{DP}$ X [$_{NP}$ N]]

Campbell (1996) proposes that in specific common noun phrases, there is a specificity operator in SpecDP. The specificity operator binds the subject position of a small clause, as shown in (35):

(35) [$_{DP}$ OP$_i$ the [$_{SC}$ [e]$_i$ thief]]

The specificity operator is a kind of DP-internal topic, which links the internal subject position (and the DP itself) to a referent identified previously in the discourse. The specificity operator is generated in the subject of a lower functional projection, ArtP (Article Phrase). The specificity operator, when overt, is realized by the demonstrative. The operator (together with the demonstrative when overt) moves to a higher functional projection, DP. The operator is covert when there is other material in the higher F head such as the definite articles.

Brugè (2002) proposes that the demonstrative in Spanish is generated in the specifier position of a functional projection intermediate between the DP and the NP and lower than all the functional projections containing APs.

(36) DP — APs — Demonstrative — N — complements

As illustrated in the Spanish examples below, the demonstrative can appear in either the high SpecDP position as in (37a) or in the low SpecFP position in surface structure, as in (37b) (the head noun is moved to some head position of a functional projection between the DP and the APs, call it #P):

(37) a. [$_{DP}$ este$_i$ [$_{\#P}$ libro$_j$ [$_{AP}$ viejo [$_{FP}$ t$_i$ [$_{NP}$ t$_j$]]]]
this book old

b. [$_{DP}$ el [$_{\#P}$libro$_j$ [$_{AP}$ viejo [$_{FP}$ este [$_{NP}$ N$_j$]]]]]
the book old this

In (37a), the demonstrative moves up to SpecDP to check its [+ref] and [+deictic] feature with D, while in (37b), the adjective blocks the movement (assuming that adjectives are maximal projections in the Spec of some functional projection, à la Cinque 1994). The definite article is inserted to show that this position contains some particular feature (i.e. [+ref]) to prevent it from being interpreted as existential. The demonstrative then moves up at LF to check its feature.

Details aside, the various proposals above share the theme that there are two R layers in a noun phrase and there is interplay between the higher R layer and the lower R layer. The question is then what the mechanism is that regulates the two R layers in Chinese, the Specificity Phrase and the Classifier Phrase.

2.3 Agree, definiteness and indefiniteness

The S head is the locus of specificity. Specific noun phrases can be either definite or indefinite. I assume that an S head that is specified as [+def] gives rise to a definite reading. An S head that is not specified in terms of definiteness gives rise to an indefinite reading by some default rule at LF. It is similar to treating tense being a feature, and [+past] is a value of that feature. By assumption, the classifier is where definiteness is encoded. The S head needs to seek the classifier to provide the S head with a definiteness value. I assume that there are two types of classifiers. Classifiers can come out of the lexicon either carrying a [+def] value or containing no value specification, ϕ. Definite noun phrases are always specific. Indefinite noun phrases can be either specific or non-specific. In other words, classifiers with a [+def] value would require the projection of the SP layer in order to get interpreted. Classifiers that contain no value specification can be interpreted with or without the SP layer. The SP layer and the definite classifier 'need' each other, but for different reasons. The S head seeks a value. The definite classifier seeks to be interpreted in the SP domain.

The two-way relationship between the S head and the definite classifier can be implemented by an Agree relation, in which the probe and goal 'need' different things from each other. The probe needs a value and the goal needs to be interpreted in a proper domain. Pesetsky & Torrego's (2004) formulation of Agree provides such an option. I provide a brief summary of their system below.

Pesetsky & Torrego (2004) argue for a modification of the formulation of the agreement mechanism proposed in Chomsky (2000). They differ from Chomsky's formulation in that, firstly, they argue in favour of a view of Agree as feature sharing. They define it as follows:

(38)
Agree

(i) An unvalued feature F (a *probe*) on a head H at a syntactic location α (F_α) scans its c-command domain for another instance of F (a *goal*) at a location β (F_β) with which to agree.

(ii) Replace F_α with F_β so the same feature is present in both locations.

Secondly, they abandon the valuation/Interpretability Biconditional:

(39)
Valuation/Interpretability Biconditional (Chomsky (2001b, p.5))
A feature F is uninterpretable iff F is unvalued.

If interpretability is concerned with whether a feature can be interpreted in the semantic component and valuation is concerned with whether that particular feature has been specified or not, interpretability should not be identical to valuation.

One of the consequences of having valuation and interpretability detached from each other is that it gives rise to two more types of feature combinations:

Type of features (boldface =new type of combinations, taken from Pesetsky & Torrego 2004)

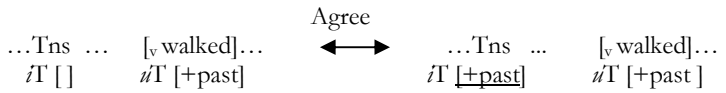
(40)
a. ***u*F *val* uninterpretable, valued** b. *i*F *val* interpretable valued

c. *u*F [ ] uninterpretable, unvalued d. ***i*F [ ] interpretable, unvalued**

([ ] means unvalued, *val* means valued. *u* means uninterpretable while *i* means interpretable.)

In Pesetsky & Torrego's (2004) system, both uninterpretable and unvalued features can act as probes. They give a plausible example of an interpretable unvalued feature acting as a probe, namely, the T feature of the category Tns. They argue that, assuming there is a distinct Tns node acting as the locus of semantic tense (following Chomsky 1957, Emonds 1976, 1978 and Pollock 1989), and in view of the fact that in many languages, tense morphology is on the verb, this combination of affairs suggests that T on the finite verb in such languages would bear an uninterpretable but valued T feature that enters an Agree relation with an interpretable but unvalued T feature on Tns. (41) schematizes the Agree relation.

(41)
The relationship between Tns and the finite verb:



In the above case, T is the feature and [+past] is the value. The underlined value represens the one that receives the value from the host feature via Agree.

Pesetsky & Torrego (2004) use the term *instance* to refer to the feature-location pair and the term *occurrence* to refer to the distinct features that might undergo Agree. Thus, in (41), in the pre-Agree state (the left side of the arrow), there are two occurrences of the T features; in the post-Agree state (the right side of the arrow), there are two instances. Deletion applies then to the uninterpretable instance of the feature T.

The two new types of feature combinations (40a, 40d) will play an essential role in my proposal regulating the interplay between the S head and the classifier head.

Coming back to Chinese, the S head, being the locus of specificity, has an *i*S feature that is unvalued, [ ]. The *i*S [ ] feature on the S head has to agree with a classifier. Two types of classifiers can be drawn from the lexicon. It either has an uninterpretable S feature with a [+def] value, or it can come with no S feature/definiteness value at all.

(42) S: *i*S [ ] = interpretable S feature but unvalued
Cl: *u*S [+def]/ ϕ = uninterpretable S feature with a [+def] value/ no S feature

When the classifier contains no S feature, the *i*S [ ] feature on the S head remains unvalued. This state of affairs will cause a crash at LF unless there is a default rule to assign a value to the S head for interpretation. I suggest that a default rule at LF assigns an indefinite interpretation to the S head. The rule can be stated as follows:

(43) An S [ ] head is assigned an indefinite interpretation

In order to make sure an uninterpretable feature will be matched with an interpretable one, following Pesetsky & Torrego (2004), I adopt Brody's (1997) Thesis of Radical Interpretation, which requires all syntactic elements to be semantically interpretable. This will force all the uninterpretable features to match with an interpretable counterpart. Pesetsky & Torrego (2004) notes that Brody's (1997) Thesis of Radical Interpretation differs from the deletion of uninterpretable features after checking in that "it is not uninterpretable features that delete at the interface with the semantic component — because there can be no uninterpretable features at the semantic interface. There are only

uninterpretable instances of features, and every feature must have at least one interpretable instance." (Pesetsky & Torrego 2004, p. 8).

(44) The relationship between the S head and the classifier head is illustrated as follows:

a.

	Agree	
…S……. Cl	⟷	…..S…… Cl
*i*S [ ] *u*S [+def]		*i*S [+def] *u*S [+def]

b.

	No Agree	
…S…….Cl	⟷	…..S……Cl
*i*S[ ] ϕ		*i*S[ ] ϕ

I assume that in Agree, the feature on the definite classifier needs to move to the S head (differ from Pesetsky &Torrogo 2004). This assumption is important in accounting for why [Nume-Cl-N] phrases are always indefinite. The general idea is that the numeral blocks the feature movement. The detailed implementation will be presented in section 3.

3. The proposal

In this section, I provide a structural account for the definite/indefinite interpretations of five types of noun phrases, [Cl-N] phrases, [Nume-Cl-N] phrases, [modifier-Cl-N] phrases, [Dem-(Nume)-Cl-N] phrases and bare nouns in three Chinese languages, Cantonese, Mandarin and Wenzhou. My focus will be mainly on noun phrases that have the SP layer, i.e. specific noun phrases. Non-specific noun phrases will be addressed at the very end of this section.

3.1 [Cl-N] phrases in Cantonese, Mandarin and Wenzhou

3.1.1 Cantonese

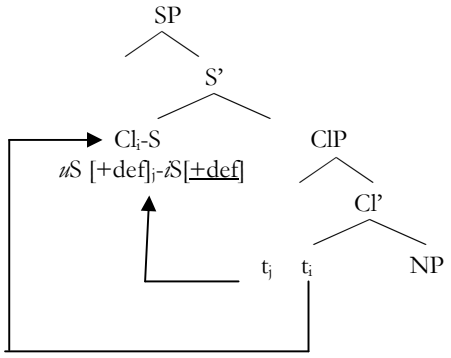
In Cantonese, [Cl-N] phrases can be interpreted as definite, as in (45) or indefinite, as in (46).

(45) zek^{3} gau^{2} zung^{1}ji^{3}sik^{6} juk^{6} (taken from Cheng & Sybesma 1999)
CL dog like eat meat
'The dog likes to eat meat.'

(46) keoi^{5} zung^{1}ji^{3}-zo^{2} go^{3} jau^{5}-cin^{2} zai^{2}
s/he like-ASP CL have-money kid
'S/He is in love with a rich kid.'

The definite [Cl-N] phrase in (45) has the following structure:

(47)



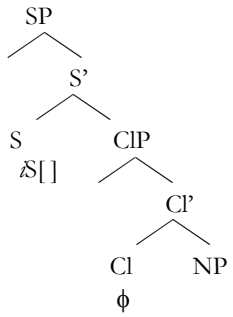
Step 1: The *i*S [ ] feature on S is the probe and the *u*S [+def] feature is the goal. The *i*S [ ] feature on the S head agrees with the *u*S [+def] feature on the classifier. The *u*S [+def] feature on the classifier moves to the S head.

Step 2: The classifier moves to the S head to satisfy the 'visibility' condition.

The noun phrase is interpreted as definite in the semantic component.

The indefinite [Cl-N] phrase in (46) has the following structure:

(48)



There is no Agree. The S head remains unspecified at syntax. The SP layer does not have to be made 'visible'. The S head gets assigned an 'indefinite' value by some default rule at LF.

3.1.2 Mandarin

Cheng & Sybesma (1999) show that [Cl-N] phrases in Mandarin cannot be interpreted as definite.

(49) * běn shū bù hǎo
CL book not good
Intended reading: 'The book is not good.'

Cheng & Sybesma (1999) account for it by proposing an empty Numeral Phrase (NumeP) on top of the Classifier Phrase in Mandarin whenever the classifier is overt. The Numeral Phrase is inherently indefinite, thus, [Cl-N] phrases in Mandarin are always indefinite.

(50) NumeP
Nume'
Nume ClP

I will adopt this idea of the NumeP on top of the ClP, but I will derive the indefinite reading differently.

I assume that the numeral, being inherently indefinite, always contains a [-def] value.[6] The numeral is incompatible with a [+def] classifier. Consider the following structure:

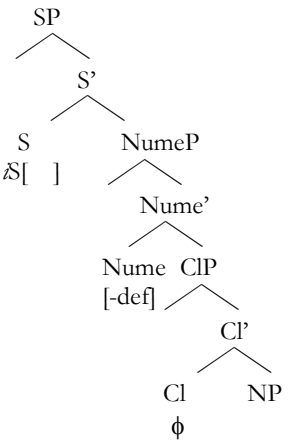
(51) SP
S'
S NumeP
*i*S[]
Nume'
Nume ClP
[-def]
Cl'
Cl NP
*u*S[+def]

[6] The [-def] value on the numeral cannot participate in an Agree relation with the *i*S [ ] feature on the S head because the [-def] value on the numeral does not come with an *u*S feature. The S feature is only present in the two referential layers, the Specificity Phrase and the Classifier Phrase.

The *i*S [ ] feature on the S head probes. The *u*S [+def] feature has to move up to the S head. In order to move to S, there are two options. The *u*S[+def] feature can either move in one big step, skipping the numeral head. This would violate the Head Movement Constraint (Travis 1984). Another option is to move to the numeral head first, then tag along the content in the numeral head to S. The problem is that the numeral has a [-def] value and the classifier has a [+def] value. The conflicting values that end up on the S head will crash the derivation. Not tagging along the content of the numeral is also not an option because it has been argued that excorporation is not a legitimate operation (Baker 1988). Since there is no feasible way to get the *u*S [+def] feature on the classifier to S, the presence of a numeral head is incompatible with a [+def] classifier.

When the classifier contains no feature/value, there is no Agree. This is illustrated below:

(52)



The noun phrase is interpreted as a specific indefinite.

3.1.3 Wenzhou

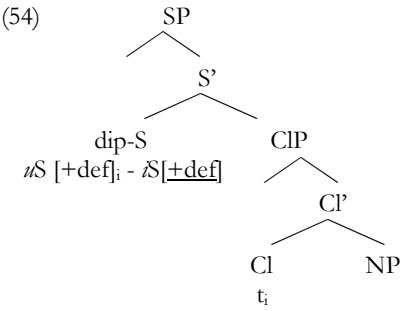
In Wenzhou, [Cl-N] phrases can be definite if the classifier changes from its original tone to a dipping tone. This is illustrated below:

(53) a. ŋ̍^{4} ɕi^{3} ma^{4} paŋ^{3} sɿ^{1}
I want buy CL book
'I want to buy a book'

b. ŋ̍^{4} ɕi^{3} ma^{4} paŋ^{dip} sɿ^{1}
I want buy CL book
'I want to buy the/this book'

For an indefinite [Cl-N] phrase in Wenzhou, the structure is identical to the one in Cantonese, as in (48). For a definite [Cl-N] phrase in Wenzhou, the derivation is slightly different from that in Cantonese. The difference is that in Cantonese, as in (47), the classifier moves to S to make the S head 'visible'. In Wenzhou, a dipping tone is inserted in the S head instead. The classifier remains in place since the 'visibility' condition is already satisfied. The derivation can be presented as follows:

(54)



Step 1: The *i*S [ ] feature on S is the probe and the *u*S [+def] feature is the goal. The *u*S [+def] feature on the classifier move to S to check features.

Step 2: The S head is specified as [+def]. A dipping tone is inserted to satisfy the 'visibility' condition.

The dipping then gets attached to the classifier at PF (Cheng & Sybesma 2005)

I assume that the dipping tone is part of the numeration. As a result, the fact that insertion of a dipping tone in S is chosen in Wenzhou over movement of the classifier to S does not fall under the explanation of the 'economy of derivation' (Chomsky 1995) since two different numerations are being considered here (an argument borrowed from Cheng & Sybesma 1999).

3.2 [Nume-Cl-N] phrases in Cantonese, Mandarin and Wenzhou

[Nume-Cl-N] phrases in Cantonese, Mandarin and Wenzhou are always indefinite (Cheng & Sybesma 1999, 2005). Recall that earlier on, following Cheng & Sybesma (1999, 2005), I assumed that in Mandarin, [Cl-N] phrases are always indefinite because there is always a covert Numeral Phrase projected on top of an overt Classifier Phrase. The [-def] value in the numeral head will make the movement of the *u*S [+def] feature to S impossible. As a result, the presence of a numeral is only compatible with a classifier with no S feature/definiteness value. The situation is the same with a [Nume-Cl-N] phrase where the

numeral is overt. All [Nume-Cl-N] phrases in Cantonese, Mandarin and Wenzhou will have the structure in (51), except that the numeral head is overt.

This will explain why in [Nume-Cl-N] phrases in Wenzhou, the classifier never changes tone. Changing the classifier into a dipping tone will bring ungrammaticality, as illustrated below.

(55) sa^{1} paŋ^{3} si^{1}
three CL book
'three books'

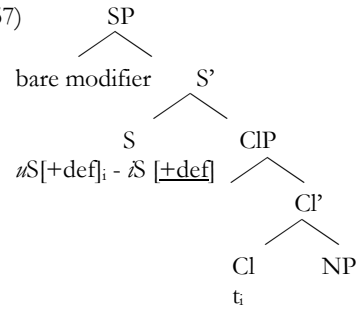
(56) *sa^{1} paŋ^{dip} si^{1}
three CL book
Intended reading: 'the three books'

Since the S head in a [Nume-Cl-N] phrase is never specified as definite, according to the S head 'visibility' condition, neither SpecSP nor the S head can be filled. The insertion of the dipping tone will thus lead to ungrammaticality.

3.3 [bare modifier-Cl-N] phrases in Cantonese, Mandarin and Wenzhou

As illustrated earlier on, [bare modifier-Cl-N] phrases (MCN phrases) are always definite and are possible in Cantonese, Wenzhou but not in Mandarin. I have also observed that [Cl-N] phrases can be interpreted as definite in Cantonese, Wenzhou but not in Mandarin. Linking the two, I suggest that only definite [Cl-N] phrases allow a bare modifier in SpecSP. Indefinite [Cl-N] phrases do not allow any bare modifiers to appear in SpecSP. I stated this as a generalization, which I call the S head 'visibility' condition. An MCN in Cantonese has the following structure:

(57)



Step 1: The *i*S [ ] feature on S is the probe and the *u*S [+def] feature is the goal. The *u*S [+def] feature on the classifier moves to the S head to check feature.

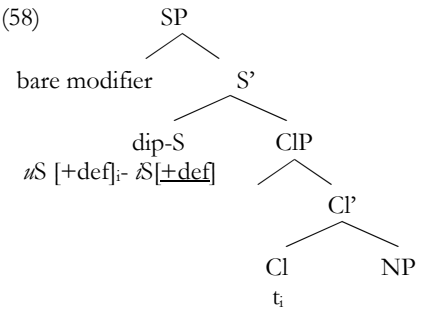
Step 2: The S head is specified as [+def]. The bare modifier in SpecSP satisfies the 'visibility' condition.

The classifier can optionally move to S.

In Mandarin, MCNs are not possible because the [Cl-N] phrases always have a covert Numeral Phrase on top. The S head is never specified as definite and nothing can appear in SpecSP or the S head.

In Wenzhou, the classifier in an MCN may or may not change into a dipping tone. When the classifier is changed into a dipping tone, it has the following structure:

(58)



When the dipping is not inserted and the classifier is moved to S instead, a Wenzhou MCN has the same structure as the Cantonese MCN in (57).

Recall that in chapter 2, I use examples like [modifier-Nume-Cl-N] phrases to argue for the presence of the SP layer in Chinese. Since [Nume-Cl-N] phrases are always indefinite, the S head is not specified as definite, nothing should be allowed in SpecSP. The question is then where the modifier is in [modifier-Nume-Cl-N] phrases and why they aren't ungrammatical. Here, a distinction between different types of modifiers is necessary. In MCN phrases, the modifier is a bare modifier ([bare modifier-Cl-N]). In [modifier-Nume-Cl-N] phrases, the modifier is a marker modifier ([marker modifier-Nume-Cl-N]). This is illustrated below with Cantonese examples. The modifiers (both types) are underlined.

Bare modifier:
(59) daai^{3} ngaan^{5}geng^{2} go^{3} naam^{4} zai^{2}
wear glasses CL boy

Marker modifier:
(60) daai^{3} ngaan^{5}geng^{2} ge^{3} saam^{1} go^{3} naam^{4}zai^{2}
wear glasses MARKER three CL boy

In chapter 5, I will argue that bare modifiers are specifiers but marker modifiers are adjuncts. Granted that, in (60), the marker modifier is adjoined to the SP layer instead of in SpecSP. Since the S head 'visibility' condition only says that nothing can be in SpecSP if the S head is not specified as definite, adjuncts to the SP layer are excluded. On the other hand, since bare modifiers are specifiers, [bare modifier-Nume-Cl-N] phrases are expected to the ungrammatical if the S head 'visibility' condition is a correct generalization. This is borne out, as illustrated below.

Cantonese:
(61) *hung^{4}sik^{1} saam^{1} bun^{2} syu^{1}
red three CL book
Intended reading: 'the three red books'

Mandarin:
(62) * hóng sè sān běn shū
red three CL book
Intended reading: 'the three red books'

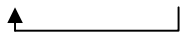
Wenzhou:
(63)* hoŋ^{2}se^{7} sa^{1} paŋ^{3} si^{1}
red three CL book
Intended reading: 'the three red books'

The ungrammaticality in (61), (62) and (63) can also be subsumed under the S head 'visibility' condition.

3.4 Demonstrative-containing noun phrases in Cantonese, Mandarin and Wenzhou

As noted earlier on, in some languages (Spanish for instance), the demonstrative can be shown to appear in two positions. Brugè (2002) argues that the demonstrative originates very low in the nominal structure, then moves up to SpecDP to check its [+ref] and [+deictic] feature with D, as in (64a). When an adjective is present and such movement is blocked (the assumption is that both the demonstrative and the adjective are maximal categories), a definite article is inserted instead, as in (64b).

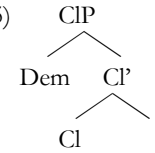
(64) a. este$_i$ libro t_i
this book



b. el libro viejo este
the book old this

The two different positions of the demonstrative form part of the basis in postulating the two referential layers in the nominal. The high (pre-nominal) occurrence of the demonstrative in (64a) is in the high R layer and the low (post-nominal) occurrence in (64b) is in the low R layer. The demonstrative, when appearing high, has in fact moved from the low R layer to the high R layer. In the proposal sketched above for Chinese, there are also two referential projections, namely the Specificity Phrase and the Classifier Phrase. Even though the demonstrative never appears low in Chinese, I will assume that the demonstrative in Chinese is also base-generated in the low R layer (i.e. the Classifier Phrase) for theoretical consistency. The demonstrative then moves up to SpecSP. Having argued that the demonstrative in Chinese is phrasal (see chapter 3 for arguments), I assume that the demonstrative is base-generated in SpecClP.

(65)



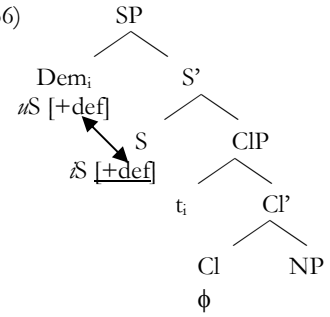
As for the trigger for movement of the demonstrative from SpecClP to SpecSP, I assume that the demonstrative comes with an *u*S [+def] feature that needs to be checked against the *i*S [ ] feature on S. The demonstrative moves to SpecSP to check the feature on S.

Recall that, however, the *u*S[+def] feature on the classifier can move to check the feature on S without tagging along the category. Why is it the case that the category demonstrative has to move with the feature in this case?

My answer is the following. The [+def] value on the classifier is not inherent. Classifier can either come with it, or come with no feature/value specification This enables [Cl-N] phrases to be potentially interpreted as either definite or indefinite. The demonstrative, however, is always definite. I take it to indicate that the [+def] value of the demonstrative is contained within the lexical item. In other words, the [+def] value cannot move without tagging the category along.

When a demonstrative appears in a noun phrase without a numeral, it has the following structure:

(66)



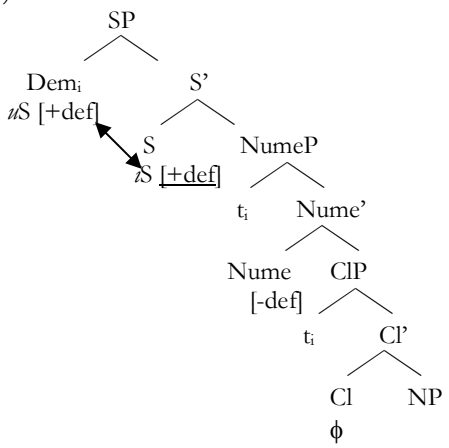
The presence of the demonstrative satisfies the 'visibility' condition. Note that the presence of a demonstrative is incompatible with an *u*S [+def] classifier because the demonstrative will always be a more local goal to the S head than the classifier. If the classifier has an *u*S [+def] feature, the uninterpretable feature will be left unchecked and the derivation would crash. 'more local' and 'c-command' are defined as follows:

(67) More local
Y is more local to X than Z iff,
(i) X c-commands both Y and Z
(ii) Y c-commands Z but Z does not c-command Y

(68) c-command
X c-commands Y iff,
(i) X does not dominate Y
(ii) the first node that dominates X also dominates Y

A [Dem-Nume-Cl-N] phrase has the following structure:

(69)



When the demonstrative moves up (presumably via SpecNumeP), since it is a maximal projection, it does not have to go past the numeral. The [-def] value on the numeral will have no effect on the movement because the [-def] value on the numeral does not come with an S feature. Again, the 'visibility' condition is satisfied by the presence of the demonstrative.

3.5 Bare nouns phrases in Cantonese, Mandarin and Wenzhou

3.5.1 The facts

In Cantonese, bare nouns can be interpreted as indefinite but not definite.
(All the data are taken from Cheng & Sybesma 1999, 2005)

(70) wu^4 fei^1 heoi^3 maai^5 syu^1
Wufei go buy book
'Wufei went to buy a book/books.'

(71) *wu^5 fei^1 jam^2 –jyun^4 tong^1 la^3
Wufei drink-finish soup SFP
Intended reading: 'Wufei finished drinking the soup.'

(72) *gau^{2} soeng^{2} gwo^{3} maa^{3}lou^{6}
dog want cross road
Intended reading: 'The dog wants to cross the road.'

In Mandarin, bare nouns can be interpreted as both definite and indefinite.

(73) húfēi mǎi shū qù le
Hufei buy book go SFP
'Hufei went to buy a book/books.'

(74) húfēi hē- wán-le tāng
Hufei drink-finish-ASP soup
'Hufei finished the soup.'

(75) gǒu yào guò mǎlù
dog want cross road
'The dog/dogs want/s to cross the road.'
(NOT: 'A dog wants to cross the road.')

In Wenzhou, bare nouns can also be interpreted as both definite and indefinite:

(76) kau^{7} ke^{7}ne^{8} de^{8}bi^{8} teŋ^{1}kuɔ^{3}
dog today very obedient
'The dog/the dogs was/were very obedient today.'
(NOT: 'A dog/some dogs are very obedient today.')

The interpretation of bare noun phrases in the three Chinese languages is summarized in the following table:

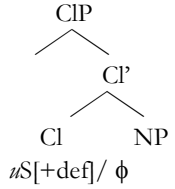
(77)

Interpretation of bare nouns	Definite	Indefinite
Cantonese	X	√
Mandarin	√	√
Wenzhou	√	√

3.5.2 Bare nouns are not really bare

Since bare nouns can also be interpreted as definite, I assume that bare nouns contain a covert Classifier Phrase on top (following Cheng & Sybesma 1999):

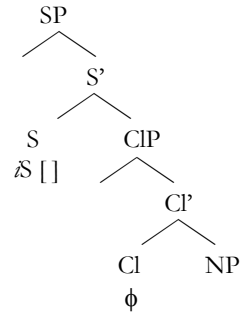
(78)



Just like an overt classifier head, the covert classifier can come with either an *u*S[+def] feature or with no feature/value specification. As mentioned in chapter 2, the Classifier Phrase, among all the other functions, expresses number. Bare noun phrases can also express number (singular or plural), though not specified. This provides another reason to believe that the Classifier Phrase should also be projected for bare noun phrases. I assume that covert classifier Phrases are not specified for number.

Indefinite bare nouns in the Cantonese, Mandarin and Wenzhou have the following structure:

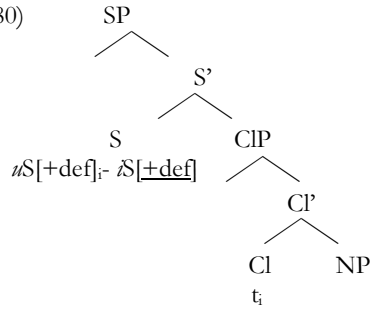
(79)



For definite bare nouns, the situation in the different Chinese languages is not the same. Let's begin with Mandarin.

The *u*S[+def] feature on the classifier moves to the S head to check the *i*S[ ] feature on S head. If we stop at this point, the derivation will look like the following:

(80)



Now, the S head 'visibility' condition comes into play. I repeat it below as (81):

(81)
The S head 'visibility' condition
(i) If the S head is specified as definite, the layer has to be made phonologically overt by filling the spec, the head or both.
(ii) If the S head is not specified with respect to definiteness, no phonologically overt element can appear in either SpecSP or the S head.

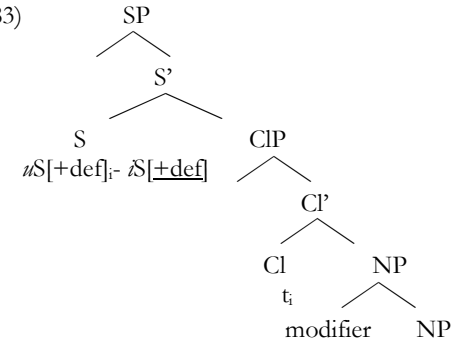
Since the classifier is not overt, moving the classifier would not satisfy the 'visibility' condition. There are two more options. The first one is to have N-to-Cl-to-S movement. The other one is to have the whole NP moves to SpecSP. Modification data indicate that it can't be the case that the N head moves to the classifier head in syntax. In Mandarin (or Chinese in general), it is possible to put a modifier between the classifier and the noun for an indefinite noun phrase, as shown below with a Mandarin example.

(82) sān bĕn hóngsè (de) shū
three CL red (MARKER) book
'three red books'

I assume that the modifiers that appear between the classifier and the noun are either adjuncts to NP or are in SpecNP (see chapter 4 for discussion).

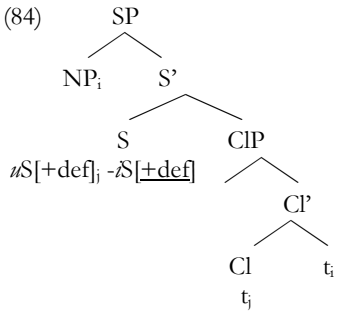
Now consider the following structure of a definite bare noun with a modifier adjoined to the NP. The structure in (83) represents a point in the derivation when Agree has taken place but the 'visibility' condition is waiting to be satisfied:

(83)



If the head N moves to the classifier and then moves to S, the prediction is that the resulting definite noun phrase will have the surface string of [N-modifier].[7] In Chinese, the surface string of [N-modifier] is never attested. In view of this, I assume that the 'visibility' condition for definite Mandarin bare nouns is satisfied by moving the whole NP to SpecSP (with the adjoined modifiers when present). A definite bare noun phrase in Mandarin would have the following structure.

(84)

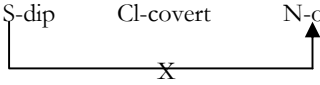


In Wenzhou, a definite bare noun also has the structure in (84). The NP moves to the SpecSP to make visible the SP layer. The question arises as to why the dipping tone option is not used in this case to make visible the S head. One possibility is to say that the dipping tone (once inserted in the S head) has to be segmentalized by an adjacent overt head at PF, and the segmentalization process is sensitive to the presence of a covert classifier head. The covert classifier will block the segmentalization. It is also not possible for the N to move up to the classifier head to facilitate the segmentalization because it would then involve the syntax making adjustment (moving N to Cl) for some process that happens at PF

[7] For bare noun phrases containing modifiers that appear in the SP layer, even if the N head moves to S, the surface string will still be [modifier-N].

(segmentalization). This would involve look-ahead from one component to the other. I assume this is not possible

(85) S-dip Cl-covert N-overt



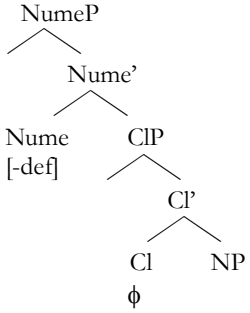
Thus, in Wenzhou, the NP movement option is used instead of the insertion of a dipping tone.

In Cantonese, bare nouns cannot be interpreted as definite. Similar to the obligatory indefinite reading of Mandarin [Cl-N] phrases (Cheng & Sybesma 1999, 2005), the obligatory indefinite reading of a Cantonese bare noun comes from a covert Numeral Phrase. In Cantonese, a covert Classifier Phrase always come with a covert Numeral Phrase on top. The [-def] value on the covert numeral head will prevent the *n*S [+def] feature on the classifier to check feature with S. In other words, bare nouns in Cantonese always have a covert classifier with no feature/value specification.

3.6 Non-specific noun phrases

[Nume-Cl-N] phrases, [Cl-N] phrases and bare nouns in Cantonese, Mandarin and Wenzhou can all be interpreted as non-specific. In other words, they can all come without the SP layer. A non-specific [Nume-Cl-N] phrase would have the following structure:

(86)



The noun phrase in (86) is interpreted as indefinite. There are two possibilities. It is can be the case that when there is no SP layer, LF looks at the highest head, Nume, for a definiteness value. Or, LF assigns an 'indefinite' value to the whole noun phrase by some default rule. I leave this issue open.

For a non-specific [Cl-N] phrase, the Numeral Phrase is absent. In both the non-specific [Nume-Cl-N] cases and the non-specific [Cl-N] cases, the classifier has to be of the type that comes with no S feature. If the classifier is of the type that comes with an *n*S[+def]

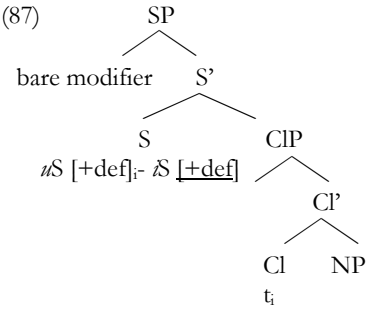
feature, the derivation would crash. For a non-specific bare noun, the Classifier Phrase may or may not be projected depending on whether number is expressed. If number is expressed, then the Classifier Phrase is projected. When number is not expressed, the Classifier Phrase is absent. When the Classifier Phrase is absent, the resulting reading of the bare noun is a kind/mass reading.

4. Loose ends

4.1 The classifier has to be overt in an MCN

Recall that earlier on, I argued that [bare modifier-Cl-N] phrases (MCNs) are not possible in Mandarin because [Cl-N] phrases in Mandarin cannot be interpreted as definite. In Mandarin, bare nouns can be interpreted as definite. As the proposal stands, it predicts that it is possible to have a bare modifier in SpecSP, directly followed by a bare noun, as in (87):

(87)



(87) is similar to the structure of a [bare modifier-Cl-N] in Cantonese or Wenzhou except that the classifier is covert. In view of the proposal presented so far, (87) should be grammatical. However, the structure in (87) is not possible. The following is ungrammatical:

(88) * wǒ ɸ-CL shū (Mandarin)
I book
Intended reading: 'my book'

Other modifiers like locatives and relative clauses are also ungrammatical in a [bare modifier-N] phrase in Mandarin. The same also holds for Wenzhou, as shown below:

(89) *ŋ̀^{4} ɸ-CL si^{1} (Wenzhou)
I book
Intended reading: 'my book'

It seems then only definiteness is not enough to license the filling of SpecSP with a bare modifier. Both definiteness and an overt classifier have to be present in order to allow a bare modifier to appear in SpecSP. This requirement can be stated as a generalization like the one below:

(90) SpecSP can only be filled with a bare modifier iff
(i) the SP layer is specified as definite
(ii) the noun phrase contains an overt classifier

In Wenzhou, even if the bare noun can be definite, the lack of an overt classifier bans the filling of SpecSP with a bare modifier. When an overt classifier is available, then SpecSP can be filled, as in an MCN. In Mandarin, the situation is a bit complicated. In order to be able to fill SpecSP with a bare modifier, an overt classifier is needed. However, in Mandarin, an overt classifier always comes with a numeral, which is only compatible with a classifier with no feature/value. The S head is never specified as [+def]. Nothing can fill SpecSP.

Note that it is not that all [bare modifier-N] phrases are not possible. For examples, the following two phrases are possible:

(91) hóng sè shū (Mandarin)
red book
'red book(s)'

(92) hoŋ^{2}se^{7} si^{1} (Wenzhou)
red book
'red books'

However, there are reasons to believe that the bare modifiers in (91) and (92) are not in SpecSP. They are in SpecNP instead. Note that very few modifiers can appear bare in a [bare modifier-N] phrase and all the modifiers that can appear bare in [bare modifier-N] phrases are those that can appear bare in [Cl-bare modifier-N] phrases (e.g. simple non-deictic modifiers, see discussion in chapter 5). All the modifiers that can't appear in [bare modifier-N] phrases also can't appear in [Cl- bare modifier-N] phrases (e.g. possessors, locative, relative clauses, etc.). I conclude that (88) and (89) are ungrammatical because those bare modifiers can neither be placed in SpecNP nor in SpecSP. (91) and (92) are grammatical because the bare modifiers are in SpecNP. The grammaticality of examples (91) and (92) does not contradict the generalization in (90), though it is unclear to me at this moment why (90) should hold.

4.2 Relational nouns

There is one apparent exception to (90). There is one case in which a bare modifier can appear in SpecSP without an overt classifier. It is possible if the modifier is a possessor and

the modified noun is a kinship term (e.g. *mother*) or some terms of profession that entertain a relatively stable relation between two participants (e.g. *teacher*). In this section, only Cantonese data are discussed. Consider the following Cantonese examples:

(93) ngo^{5} ma^{1}mi^{4}
I mother
'My mother'

(94) ngo^{5} lou^{5}si^{1}
I teacher
'My teacher'

Not all terms of profession can be used this way. In fact, only nouns that are relational can be combined with possessors in the absence of classifiers. For instance, professional terms such as 'thief' or 'monk' will not do. For these terms, the classifier is also needed.

(95) a.* ngo^{5} caak^{6}zai^{2}
I thief
Intended reading: 'My thief'

b. ngo^{5} go^{3} caak^{6}zai^{2}
I CL thief
'My thief'

(96) a.*ngo^{5} wo^{4}soeng^{2}
I monk
Intended reading: 'My monk'

b. ngo^{5} go^{3} wo^{4} soeng^{2}
I CL monk
'My monk'

Kinship terms, of course, are inherently relational. One is, for instance, always the mother or the son to someone. In view of the relational nature of these nouns, let's call kinship terms and this limited class of terms of profession Relational Nouns (RNs).

The [possessor-RN] construction is only available when the possessor is a pronoun or a proper name. It is not available for all referential nouns. Compare the following:

(97) * go^{2} go^{3} hok^{6} saang^{1} lou^{5}si^{1}
that CL student teacher
Intending reading: 'The teacher of that student'

(98) go^{2} go^{3} hok^{6}saang^{1} go^{3} lou^{5}si^{1}
that CL student CL teacher
'The teacher of that student'

(99) ngo^{5}/lei^{5}/keoi^{5} / ngo^{5} dei^{6}/ lei^{5} dei^{6} /keoi^{5} dei^{6} lou^{5}si^{1}
I/you/s/he/we/you/they teacher
'My/your/his (her)/our/your/their teacher(s)'

(100) zoeng^{1}saam^{1} lou^{5}si^{1}
Zoengsaam teacher
'Zoengsaam's teacher'

As the data show, in a [possessor-RN] phrase, the possessor has to be a pronoun or a proper name. If the possessor is not a pronoun or a proper name, a classifier is needed, as in (98). Let's refer to these phrases as [Pronoun/Proper Name-RN] phrases (PRN phrases).

4.2.1 The exceptional RNs

In Chinese, unlike regular nouns, RNs are like proper names. They can be used to refer rigidly to an individual. This is illustrated in the following Cantonese examples (see Cheng & Sybesma 1999):

(101) Wu^{4}fei^{1} ceot^{1} -zo^{2} heoi^{3} aa^{3}
Wufei out-ASP go SFP
'Wufei is out.'

(102) ma^{1}mi^{4} ceot^{1} -zo^{2} heoi^{3} aa^{3}
mother out-ASP go SFP
'Mom is out.'

(103) lou^{5}si^{1} ceot^{1} -zo^{2} heoi^{3} aa^{3}
teacher out-ASPgo SFP
'(lit.) Teacher is out.'

This contrasts with non-RNs:

(104) * caak^{6} zai^{2}ceot^{1} -zo^{2} heoi^{3} laa^{3}
thief out-ASP go SFP
Intended reading: Lit. 'Thief is out.'

(105) go^{3} caak^{6} zai^{2}ceot^{1} -zo^{2} heoi^{3} laa^{3}
CL thief out-PRF go SFP
'The thief was out.'

In addition to interpretations, the similarity between RNs and proper names can be illustrated by their uniform compatibility with the element *aa*^{3} in Cantonese.

In Sio (2003), I noticed that in Cantonese, only proper names and relational nouns can be preceded by the element *aa*^{3}. This element is only used in deictic contexts when the proper names and relational nouns refer to some particular individuals. *aa*^{3} is used in colloquial speech and it gives a flavour of familiarity. Consider the following examples:

(106) a. aa^{3} **can^{4} daai^{6} ming^{4}** (proper name) b. aa^{3} **lou^{5}si^{1}** (terms of profession: teacher)
c. aa^{3} **maa^{1}** (kinship term: mother) d.*aa^{3} **haai^{4}** (common noun: shoe)
e.??aa^{3} **siu^{2} faan^{2}** (terms of profession: hawker)

(107) zou^{6} (*aa^{3}) lou^{5} si^{1} hou^{2} laan^{4} gaa^{3}
being aa teacher very difficult SFP
'It is very hard to be a teacher.'

In (106a, b, c), *aa*^{3} is used with either a proper name or a relational noun and the phrases are grammatical. In (106d), *aa*^{3} is used with a common inanimate noun *haai*^{4} 'shoe' and the phrase is ungrammatical. In (106e), even though *siu*^{2} *faan*^{2} 'hawker' is a term of profession, it is not a relational noun and cannot appear with *aa*^{3}. If (106e) has to be interpreted, *siu*^{2} *faan*^{2} 'hawker' will still get a proper name reading, referring rigidly to a particular individual. When the relational nouns are used as a common noun, *aa*^{3} cannot be used, as in (107).

The co-occurrence with *aa*^{3} shows that proper names and relational nouns are alike in some way. They share some properties that separate them from common nouns.

In Sio (2003), I observed that relational nouns and proper names can also appear with a classifier. The presence or absence of the classifier results in different interpretations. (108) to (110) illustrate this:

(108) a. go^{2} go^{3} ma^{1}mi^{4} le^{6} b. ma^{1}mi^{4} le^{6}
that CL mother SFP mother SFP
'Where is that mother?' 'Where is my (your) mother?'

(109) ngo^{5} zung^{1}ji^{3} go^{2} go^{3} Mary m^{4} hai^{6} lei^{5} aa^{3} , Mary
I like that CL Mary NEG BE you SFP, Mary
'The Mary that I like is not you, Mary.'

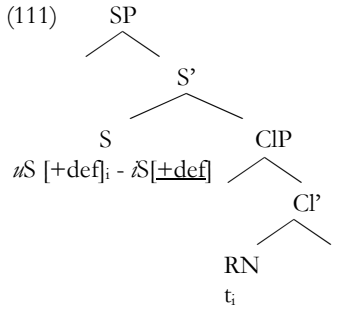
(110) ngo^{4} zung^{1}ji^{3} lei^{5} aa^{3}, Mary
I like you SFP Mary
'I like you Mary.'

In (108a), *go² go³ ma¹mi⁴* refers to a particular mother out of a group of mothers. The noun *ma¹mi⁴* in this case refers to a set of mothers. In (108b), *ma¹mi⁴* refers rigidly to either the speaker's mother or the hearer's mother, very much like a proper name.

In (109), *go² go³ Mary* refers to one Mary out of a group of people named Mary. In (110), on the other hand, *Mary* is a proper name. It refers rigidly to the addressee Mary.

Following (Sio 2003), I assume that a proper name or an RN is in N when it comes with a classifier, giving rise to a common noun reading. When the RN appears without a classifier, I assume that it is in the classifier head, but it has to be related to the S head via Agree.
An RN that refers to a rigid designation has the following structure:

(111)

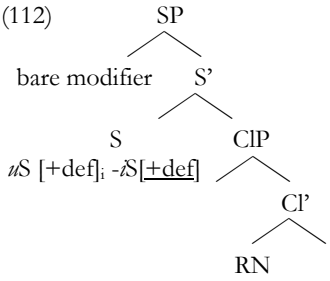


I assume that the RN that refers rigidly contains an *u*S [+def] feature and it undergoes agree with the *i*S [ ] feature in S. After Agree (which involves feature checking in this case), the RN moves to the S head to make visible the S head.

In subsequent discussion, the terms RNs only refers to those with a proper name-like reading, unless stated otherwise.

Earlier on, as stated in (90), I observed that SpecSP can only be filled if the S head is specified as definite and there is an overt classifier. PRN phrases, prima facie, are contradictory to this observation. However, if the structure in (111) is correct, PRN phrases are no longer an exception. The modified noun (the RN) contains an *u*S [+def] feature, making the S head definite via Agree. The RN occupies the classifier head, making it overt. A definite S and an overt classifier make it possible to fill SpecSP with a possessor.

(112)



Assuming that RNs in the classifier head give rise to a proper name-like reading, the question arises as to whether the RNs are base-generated in the classifier head or they move to the classifier head from N.

Note that regardless of whether RNs (with a proper name reading) are generated in N or in the classifier head, RNs will have to be endowed with some kind of special lexical property that enables them either to move from N to Cl (in the former case) or to be inserted in Cl (in the latter case).

I suggest that RNs are base-generated in the classifier head. One observation that is true of all PRN phrases is that they are always singular. Consider the Cantonese example below:

(113) ngo^{5} go^{4}go^{1}
I brother
'My brother'

Even though one can surely have more than one brother, (113) can only be interpreted as singular.

Bare nouns in Chinese, which are generated in the N head, can be interpreted as either singular or plural. This type of ambiguity can be attributed to the fact that the classifier, being covert, is not specified with number. If RNs are base-generated in N, selected by a covert Classifier Phrase, and then move up to the classifier head, one would expect it to be no different from a bare NP in terms of number expression, namely, it should be able to be interpreted as either singular or plural. The lack of a plural reading is puzzling if RNs are generated in N. Moreover, most overt classifiers are interpreted as singular, except a few (e.g. the plural classifier *di*^{1} in Cantonese or the counterparts in other Chinese languages, the dual classifier *deoi*^{3} in Cantonese or the counterparts in other Chinese languages, etc.). If RNs are generated in the classifier head, it is the general case rather than an exception that it is interpreted as singular. I conclude that RNs are base-generated in the classifier head.

4.2.2 Obligatory possessor

This section is concerned with the question why (114b,d) are ungrammatical:

(114) a. pronoun-RN / Proper name-RN
ngo^{5} lou^{5}si^{1} Peter lou^{5}si^{1}
I teacher Peter teacher
'My teacher' 'Peter's teacher'

b. *Loc-RN
*fong^{2} –jap^{6} –min^{6} lou^{5}si^{1}
room-inside-surface teacher
Intended reading: 'The teacher in the room'

c. Loc-Cl-RN
fong^{2} –jap^{6} –min^{6} go^{3} lou^{5}si^{1}
room-inside-surface CL teacher

d. *[demonstrative-containing expression]-RN
* go^{2} go^{3} hok^{6} saang^{1} lou^{5}si^{1}
that CL student teacher
Intending reading: 'The teacher of that student'

e. [demonstrative-containing expression]-Cl-N
go^{2} go^{3} hok^{6} saang^{1} go^{3} lou^{5}si^{1}
that CL student CL teacher
Intending reading: 'The teacher of that student'

As the data above show, when an RN is in the classifier head, the element in SpecSP has to be either a pronoun or a proper name, something that has rigid designation.

There is one more complication. As shown earlier on in examples (102) and (103), RNs can also have a proper name-like reading when used alone (with nothing preceding it/in SpecSP). (102) and (103) are repeated below as (115a) and (115b):

(115a) ma^{1}mi^{4} ceot^{1} -zo^{2} heoi^{3} aa^{3}
mother out-ASP go SFP
'Mom is out.'

(115b) lou^{5}si^{1} ceot^{1} -zo^{2} heoi^{3} aa^{3}
teacher out-ASP go SFP
'(lit.) Teacher is out.'

When an RN is uttered alone in situations like (115a) and (115b), an implicit relation is always present. For instance, *ma^{1}mi^{4}* in (115a) refers to the speaker's or/and the hearer's

mother, even though it is not made clear in the utterance. Interesting, *ma¹mi⁴* in (115a) cannot refer to a third person's mother, regardless of how strong the context is. Consider the exchange in (116) below:

(116) A: aa³-John ma¹mi⁴ ceot¹ -zo² heoi³ aa³
John mother out-ASP go SFP
B: ma¹mi⁴ heoi³ bin¹ aa³?
Mother go where SFP
'Where does my/your mom go?'/NOT: 'Where does John's mom go?'

In (116), the context srongly biases towards a reading that *ma¹mi⁴* refers to John's mother. However, *ma¹mi⁴* cannot be interpreted that way.

The same goes for (115b). *lou⁵si¹* refers to the speakers or/and the hearer's teacher, but not someone else's teacher.

The observations above can be summarized in two points:

(117)
(i) When an RN is in the classifier head and if SpecSP is filled phonologically, it has to be filled with either a proper name or a pronoun.
(ii) When an RN is in the classifier head and if SpecSP is not filled phonologically, the RN can only be understood as related to the speaker or/and the hearer.

The above two observations suggest that RNs in fact always come with some element in SpecSP. The element can either be overt (a proper name or a pronoun) or covert (some elements that can only be understood as being related to the speaker or/and the hearer). Granted this, then RNs themselves alone do not in fact give rise to a proper name-like reading. RNs only give rise to a proper name-like reading in collaboration with the element in SpecSP. This difference is also reflected in some syntactic contrasts between proper names and RNs. Consider the following examples:

(118) a. ngo⁵lou⁵si¹
I teacher
'My teacher'

b. * ngo⁵ John
I John
Intended reading: '(lit.) My John'

c.* ngo⁵ keoi⁵
I he
Intended reading: '(lit.)My him'

Assuming that the possessor is in SpecSP and SpecSP is a position to host elements that provide information in picking the referent (as argued in chapter 3), the above shows that proper names and pronouns in themselves always contain enough information to refer to a rigid referent, while RNs might not. They can only refer rigidly with the help of the element in SpecSP. [8]

5. Conclusion

In this chapter, I proposed a theory of the encoding of definiteness in three Chinese languages (and possibly in Chinese languages in general), Cantonese, Mandarin and Wenzhou. The proposal suggests that there are two referential layers in the Chinese nominal (i.e. the Specificity Phrase and the Classifier Phrase) and they are related via the operation Agree. The S head comes out of the lexicon unspecified for definiteness. The classifier either comes out of the lexicon specified as [+def] or unspecified. The S head undergoes Agree with the definite classifier. After Agree, the S head is specified as [+def] and gives rise to a definite reading. When the classifier is unspecified, there is no Agree with S and the S head remains unspecified. The unspecified S head is interpreted as indefinite by some default LF rule. Agree involves either the goal moving to the probe (head-to-head movement) or the goal moving to the spec of the probe (spec-head configuration). The former case is when the *u*S[+def] feature on the classifier moves to the S head. The latter case is when the demonstrative, carrying an *u*S[+def] feature moving to SpecSP. There also seems to be a curious restriction in Chinese that, when the S head is specified as [+def], Spec SP, the S head or both have to be filled overtly. When the S head unspecified, nothing can appear in SpecSP or the S head. I call it the S head 'visibility' condition, which is formulated as below:

(119)
The S head 'visibility' condition
(i) If the S head is specified as definite, the layer has to be made phonologically overt by filling the spec, the head or both.
(ii) If the S head is not specified with respect to definiteness, no phonologically overt element can appear in either SpecSP or the S head.

[8] Even though both proper names and pronouns share the property of being able to refer rigidly just by themselves, they still differ in some respects. For instance, only proper names are compatible with the deictic-related element *aa*^{3}(see example 106), but not pronouns:

(i) *aa*^{3} John
(ii) * *aa*^{3} keoi^{5}
I he

Whenever the S head is definite, it has to be filled, but when it is unspecified, nothing can appear there. It seems to suggest that the SP layer is in fact a definite layer. Only definite noun phrases has it, thus when the noun phrase is indefinite, the layer is simply not projected. As a result, nothing can appear in it. This would give a natural account for the generalization in (120). I have not adopted this explanation because of the existence of [marker modifier-Nume-Cl-N] phrases (following Zhang 2004, I refer to them as OMNs in chapter 3), which seem to be an indefinite rather than a definite (see chapter 3 for discussion). Compare the following two Cantonese sentences:

(120) ?keoi^{5} zung^{1}ji^{3}-zo^{2}
s/he like-ASP
[**daai^{3}ngaan^{5}geng^{2} ge^{3}** jat^{1} go^{3} naam^{5}zai^{2}]
wear glasses MARKER one CL boy
'S/He is in love with a (specific) boy who wears glasses.'

(121) keoi^{5} zung^{1} ji^{3}-zo^{2}
s/he like-ASP
[**daai^{3}ngaan^{5}geng^{2}**go^{3} naam^{5}zai^{2}]
wear glasses CL boy
' S/He is in love with the boy who wears glasses.'

(120) is an OMN ([marker modifier-Nume-Cl-N]) and (120) is an MCN ([bare modifier-Cl-N]). (121), at least to my ears as a native speaker of Cantonese, sounds definite in the sense that both the speaker and the hearer know who the boy is. In (120) however, it seems that even though the speaker does have a certain referent in mind, the speaker does not expect the hearer to know who the boy is. Assuming that the judgment is right and the marker modifier is located in the SP layer, it means that the projection of the SP layer is not always definite. For the 'visibility' condition to hold, it also means that the marker modifier in an OMN cannot be in SpecSP, but an adjunct. The adjunct status of marker modifiers will be argued in chapter 5.

Chapter 5 Different modifiers and different domains of modification

1. Introduction

Chinese modifiers come in two types. They are either bare or they contain a marker element. The following examples are from Cantonese:

(1) hung^{4}sik^{1} syu^{1}
red book

(2) hung^{4}sik^{1} ge^{3} syu^{1}
red MARKER book

In the previous chapters, I have been referring to the first type as bare modifiers and the latter as marker modifiers. I continue to do so here. In chapter 3, I proposed that there is a Specificity Phrase in the Chinese nominal. I call modifiers that appear in the SP layer outer modifiers and modifiers that appear between the classifier and the noun inner modifiers. Both bare modifiers and marker modifiers can appear in both domains. Thus, there are four combinations:

(3)
a. Outer marker modifiers
b. Outer bare modifiers
c. Inner marker modifiers
d. Inner bare modifiers

The usage of each combination is illustrated with the Cantonese examples below. The modifiers are in boldface:

Outer marker modifier:
(4) **lei^{5}** **kam^{4}jat^{6}** **maai^{5}** **ge^{3}** go^{2} zek^{3} bui^{1}
you yesterday buy MARKER that CL cup
'the cup that you bought yesterday'

Outer bare modifier:
(5) **lei^{5}** **kam^{4}jat^{6}** **maai^{5}** go^{2} zek^{3} bui^{1}
you yesterday buy that CL cup
'the cup that you bought yesterday'

Inner marker modifier:
(6) go^{2} zek^{3} **hello kitty** **ge^{3}** bui^{1}
that CL Hello Kitty MARKER cup
'that Hello Kitty cup'

Inner bare modifier:
(7) go^{2} zek^{3} **hung^{4}sik^{1}** bui^{1}
that CL red cup
'that red cup'

This chapter, especially section 2 to section 8, focuses on the differences between marker modifiers and bare modifiers. I argue that marker modifiers and bare modifiers have different syntactic status. Marker modifiers are adjuncts while bare modifiers are specifiers. Section 9 focuses on the differences between modifiers appearing in the inner domain and the outer domain. It shows that modifiers in the inner and the outer domains modify different aspect of the noun phrase. In particular, outer modifiers modify the referent while inner modifiers modify the property (or the genus) of the noun.

2. Differences between marker modifiers and bare modifiers in the inner domain

2.1 Distributional differences

2.1.1 Restrictions on bare modifiers in the inner domain

Modifiers of various categories can appear in the inner position with the marker, as illustrated in the following Cantonese examples:

Relative Clause:
(8) gin^{6} ngo^{5} maai^{5} ge^{3} saam^{1}
CL I buy MARKER shirt
'the/a shirt that I bought'

Locative Phrase:
(9) gin^{6} toi^{2}-soeng^{6}-min^{6} ge^{3} saam^{1}
CL table-top-surface MARKER shirt
'the/a shirt on the table'

Possessor:
(10)gin^{6} ngo^{5} ge^{3} saam^{1}
CL I MARKER shirt
'My shirt'

Adjective:
(11)gin^{2} wu^{1}zou^{1} ge^{3} saam^{1}
CL dirty MARKER shirt
'the/a dirty shirt"

For bare modifiers, their appearance in the inner position is heavily restricted based on factors including the meaning of the modifiers as well as the meaning of the [bare modifier-N] phrase. [1]

For instance, modifiers that are inherently deictic cannot appear bare in the inner domain.

(12) *gin^{3} ngo^{5} saam^{1} (Cantonese)
CL I shirt
Intended reading: 'my shirt'

Furthermore, the acceptability of [bare modifier-N] phrases seems to be also dependent on whether the combination can be taken as a newly created designation, a designation that is more than the merely intersection of the modifier and the noun (Paul 2005). For instance, even though (13) is grammatical, (14) is not.

(13) gin^{3} wu^{1}zou^{1} saam^{1} (Cantonese)
CL dirty shirt
'the/a dirty shirt'

(14) *bun^{2} wu^{1}zou^{1} syu^{1}
CL dirty book
'the/a dirty book'

(13) and (14) contain the same adjective *wu^{1}zou^{1}* 'dirty'. As is clear in the English translation, both (13) and (14) are understandable concepts. Both 'dirty shirt' and 'dirty book' are possible and common entities. However, only (13) is grammatical in Cantonese, indicating that the semantic restriction is idiosyncratic.

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[1] Phonological factors such as the number of syllables also play a role in deciding whether a modifier can appear bare in the inner domain (but they can't be the sole determining factor, see e.g. 12). Generally speaking, it is difficult to find examples of bare inner modifiers that contain more than 3 syllables, with the exceptions of loan words. The following Cantonese examples illustrate this:

(i) *gin^{6} m^{5}ngaai^{4}luk^{6}sik^{1} saam^{1}
CL multi-color shirt
Intended reading: 'the/a multi-color shirt'

(ii) go^{3} laam^{4}si^{1}laai^{1}fu^{1} jan^{4}
CL Yugoslavia person
'the/a Yugoslavian'

I will not discuss the phonological restrictions in this dissertation.

In sum, provided that the bare modifier is non-deictic, the acceptability of a [bare modifier-N] combination still seems to be highly idiosyncratic. I leave the issue open as to what is the exact formulation of the restrictions.

The idiosyncratic nature of these combinations raises the suspicion that they are compounds and are thus not relevant to narrow syntax. However, there is evidence to show that these combinations are not compounds.

Compounds are words that are formed by combining two words. They are generally assumed to be items that are listed in the lexicon, rather than items that are formed in the syntax, e.g. *blackboard, superman*, etc. Paul (2005) argues that not all [bare modifier-N] combinations are compounds. Her argument is the following. According to the Lexical Integrity Hypothesis (Huang 1984, among others), word-internal structure is not visible to syntactic rules.[2] Thus, the internal-structure of compounds, being words, should be inaccessible to syntactic processes. Paul shows that the nouns of some [bare modifier-N] combinations in Chinese are, however, accessible for being the references for some subsequent noun phrase in the same sentence. This shows that those [bare modifier-N] combinations are not compounds. I replicate Paul's argument using the Cantonese example (15) below.

(15) ngo^{5} gok^{3} dak^{1} go^{3} fei^{4} neoi^{5}-jan^{2}
I think CL fat woman
bei^{2} go^{3} sau^{3} ge^{3} leng^{3}
compare CL thin MARKER beautiful
'I think the fat woman is more beautiful than the thin one.'

In (15), *sau^{3}* 'refers to 'woman' (but not 'fat woman"). The post-*bei^{2}* noun phrase can be understood as having an empty noun (similar to the English 'one') at the end:

(16) go^{3} sau^{3} ge^{3} ϕ
CL thin MARKER one

The empty noun gets its reference from the previous clause. If *fei^{4} neoi^{5}-jan^{2}* 'fat woman' in the pre-*bei^{2}* position is a real compound and as a consequence its internal structure is inaccessible, it cannot be explained as to how the empty noun can get the interpretation that *sau^{3} ge^{3}* 'thin' is referring to 'woman'. It shows that the [bare modifier-N] combination in the first clause in (15) is not a compound.

[2] The Lexical Integrity Hypothesis can be seen as a current form of the Lexicalist Hypothesis (see Chomsky 1970).

If the above reasoning is correct, the prediction is that the head noun of a compound will not be able to act as the reference of an empty noun in the lower clause. Compounds like the Cantonese *ngaa⁴ gou¹* 'toothpaste' will be such an example:

(17) * ngo⁵ gok³dak¹ zi¹ ngaa⁴ gou¹
I think CL toothpaste
bei² zi¹ zi²-tung³ ge³ dai² –maai⁵
compare CL ease-pain MARKER worth-buy
Intended reading: 'I think the toothpaste is a better buy than the painkilling one.'

(17) is deviant, presumably, because the empty noun in the second clause cannot take any reference from the first clause. The only possible reference *ngaa⁴ gou¹* is a compound and the noun *gou¹* 'cream' within it is not accessible syntactically.

The grammaticality contrast between (15) and (17) indicates that there are different types of [bare modifier-N] combinations. The internal structure of some of them is accessible to syntax (e.g. *fei⁴ neoi⁵-jan²* 'fat woman' in (15)) while the internal structure of some others (e.g. *ngaa⁴ gou¹* 'toothpaste' in (17)) is not. In view of the Lexical Integrity Hypothesis (Huang 1984, among others) and following Paul (2005), I assume that for those [bare modifier-N] phrases the internal structure of which is not accessible to syntax, they are compounds. For those that are accessible to syntax, they are phrasal. For the latter type, the modifier does occupy some syntactic position.

Another piece of evidence to support why [bare modifier-N] combinations are not always compounds comes from noun phrases with multiple bare modifiers. Consider the following Cantonese noun phrase:

(18)

go³	ming⁴-paai⁴	zan¹-pei²	pau³-man⁴	sau²doi²
CL	famous-brand	genuine-leather	leopard-pattern	handbag
	(A)	(B)	(C)	N

In (18), each of the modifiers or any combination of two (as long as the ordering remains intact) can, in fact, combine bare with the noun, giving rise to all of the following noun phrase possibilities:

(19) (A)-N, (B)-N, (C)-N, (A)-(B)-N, (A)-(C)-N, (B)-(C)-N

Similar to a noun phrase with only one bare modifier, only modifiers that are 'semantically compatible' with the noun 'handbag' can appear bare between the classifier and the noun in (18). If all [bare modifier-N] combinations were compounds due to the idiosyncratic semantic requirement, (18) would have to be taken as a compound as well. However, if (18) is taken a compound, this makes no prediction as to whether the combinations of its subparts can form other compounds. In other words, taking (18) as a compound does not

predict that all combinations in (19) are also possible. However, if (18) is taken as a phrase, it is predicted that each modifier would have to be 'semantically licensed' by the noun individually. Assuming the 'factorization' of (18) leading to (19) is true for all cases involving multiple bare modifiers, this argues against treating [multiple bare modifiers-N] combinations and [bare modifier-N] combinations as compounds.

To recapitulate, in this section, I have shown that marker modifiers and bare modifiers are different in that marker modifiers of all types can appear in the inner domain, while only a limited number of bare modifiers can appear there, subject to semantic restriction. Not all [bare modifier-N] combinations are compounds and for those that are not, they do occupy a structural position distinct from the head noun.

2.1.2 Ordering differences between the two types of modifiers

When a marker modifier and a bare modifier are used together, the marker modifier has to precede the bare modifier. The reverse order yields ungrammaticality. The following Cantonese examples illustrate this:

(20) a. yat^{1} go^{3} hao^{6} saang^{1} ge^{3} zung^{1}-gwok^{3} jan^{4}
one CL young MARKER China person
'a young Chinese guy'

b. yat^{1} go^{3} zung^{1}-gwok^{3} hao^{6}saang^{1} ge^{3} jan^{4}
one CL China young MARKER person
Intended reading: 'a young Chinese guy'

The rigid ordering of the two types of modifiers indicates that they occupy different positions. The bare modifiers are closer to the noun than marker modifiers.

Sproat and Shih (1991) note that, when more than one adjective of the same type appears in the same noun phrase, adjective with markers do not obey ordering restrictions while bare adjectives do. They give the following Mandarin examples:

(21) a. xiǎo de lǜ de huāpíng
small MARKER green MARKER vase

b. lǜ de xiǎo de huāpíng
green MARKER small MARKER vase

(22) a. xiǎo lǜ huāpíng
small green vase

b* lù xiǎo huāpíng
green small vase

Generally speaking, the claim that adjectives with markers are oblivious to ordering restrictions can be extended to other marker modifiers.

(23) go^{2} go^{3} daai^{3} ngaan^{5}geng^{2} ge^{3}, jau^{5}-sou^{1} ge^{3},
that CL wear glasses MARKER have-beard MARKER
zoeng^{4} tau^{4}faat^{3} ge^{3} naam^{4}jan^{2} le^{1}?
long hair MARKER man SFP
'Where is the/that man who wears glasses, has a beard and has long hair?'

The modifiers in (23) can freely swap places without causing ungrammaticality. However, there are also cases where the ordering of modifiers does matter. For example, ordering restrictions are at play in noun phrase constructions that involve a noun-complement and a relative clause (Tsao 1997, Simpson 2002), as shown in (24):

(examples taken from Simpson 2002, the glosses are slightly modified)

(24) a. [wǒ zuótiān tīng- dào de] [Dèng Xiǎopíng sǐ de] xiāoxi
[I yesterday hear MARKER] [Deng Xiaoping die MARKER] news
'the news that Deng Xiaoping had died which I heard yesterday'

b.* [Dèng Xiǎopíng sǐ de] [wǒ zuótiān tīng- dào de] xiāoxi
[Deng Xiaoping die MARKER] [I yesterday hear MARKER] news

In (24b), the marker modifier *Dèng Xiǎopíng sǐ de* 'Deng Xiaoping die' is the semantic complement of the noun *xiāoxi* news. In such a case, the marker modifier has to be the closest to the noun.

Secondly, Del Gobbo (to appear) notices that in Chinese, individual-level relative clauses are closer to the noun then stage-level relative clauses. The following Mandarin data are from her, the glosses are slightly modified.

(25) a. [wǒ zuōtiān kàn-jiàn de] [xǐhuān qù yīnyuèhuì de] rén
[I yesterday meet MARKER] [like go concert MARKER] person
'The person I met yesterday who likes to go to concerts'

b.* [xǐhuān qù yīnyuèhuì de] [wǒ zuōtiān kàn -jiàn de] rén
[like go concert MARKER] [I yesterday meet MARKER] person

What the above intends to show is that even though the contrast between (20) and (21) is real, there are exceptions. Marker modifiers that are complements to the noun need to be

closer to the noun than marker relative clauses. Individual-level marker relative clauses also have to be closer to the noun than the stage-level ones.

2.1.3 Pause and iteration

Leaving ordering aside, bare modifiers and marker modifiers also differ in the following way. In cases of multiple modifiers, it seems natural to have a pause between marker modifiers, but not between bare modifiers. Consider the following Cantonese examples (pauses are indicated by #):

(26) a. ??jat^{1} zoeng^{1} daai^{6} #jyun^{4} # toi^{2}
one CL big round table

b. jat^{1} zoeng^{1} daai^{6} ge^{3} # jyun^{4} ge^{3} # toi^{2}
one CL big MARKER round MARKER table

In (26a), it is not natural to have a pause between 'big' and 'round'. In (26b), it is natural to have a pause after each marker.

Since bare adjectives are subject to ordering restrictions as well semantic restrictions in order to appear bare in the inner domain, it is not easy to multiply bare modifiers. Marker modifiers, on the other hand, can multiply rather freely:

(27) ngo^{5} soeng^{2} maai^{5} jat^{1} go^{3} hung^{4}sik^{1} ge^{3},
I want buy one CL red MARKER,
jau^{5} -kau^{3} ge^{3}, pei^{2}-zou^{6} ge^{3},
have-buckle MARKER, leather-made MARKER
ceot^{1}-gaai^{1} me^{1} ge^{3} …… doi^{2}
go-street wear MARKER bag
'I want to buy a bag that is red, has a buckle, is made of leather, which can be worn to go out…'

(27) can be uttered in a situation in which someone is telling a saleslady in a shop what kind of bag he or she is looking for. It is possible to add more modifiers between the last marker modifier and the noun. One can also add a long pause if one needs to think a while longer for more properties.

2.1 Interpretative differences

2.1.1 Contrastive vs. non-contrastive reading

As mentioned earlier, the marker element appears in a number of languages. Thai is one of them. In Thai, a marker element *thii* is placed between the modifier and the noun. Den

Dikken & Singhapreecha (2004) notice that noun phrases with the marker always receive a contrastive interpretation:

(28) pitsa roon
pizza hot
'hot pizza'

(29) pitsa thii roon
pizza MARKER hot
'hot pizza'

(29) is only felicitous in a context in which there is a contrast between pizzas that are hot and pizzas that are not, while (28), without the presence of the marker, is not restricted in this way. It can be used in a context in which there are only hot pizzas available, as well as a situation where both hot and cold pizzas are available.

Paul (2005), quoting Tang (1979) and Zhu (1984), points out a similar contrast. The contrast is illustrated with the Mandarin examples below (data taken from Zhu 1984):

(30) xuéxiào yǒu yángé guīdìng
school have strict rule
'The school has strict regulations.'

(31) xuéxiào yǒu yī xīe yángé de guīdìng
school have one CL_{pl} strict MARKER rule
'The school has several strict regulations.'

(30) means that all the rules of the school are strict. (31) means that only some of the school rules are strict and a marker is used.

2.2.2 Defining properties vs. temporary properties

According to Fu (1987), bare modifiers express a permanent property while marker modifiers express a transient property. Paul (2005) argues that since both individual-level (as in (32)) and stage-level predicates (as in (33)) can appear as bare modifiers, it is more appropriate to state that bare modifiers express a defining property, rather than a permanent one.

(32) yī jiàn gānjìng yīfú
one CL clean clothe
'a clean shirt'

(33) yī ge cōngmíng rěn
one CL smart person
'a smart person'

Paul (2005) claims that the marker element divides the noun phrase into two different syntactico-semantic domains: modifiers without the marker are interpreted as a defining property; modifiers that appear with the marker are interpreted as a temporary property. Paul, referring to Wen (1998), shows that the contrast is more readily perceivable in the case of nominal modifiers, as in the Mandarin examples below (data are from Wen 1998, the glosses are slightly modified):

(34) Měiguó liúxuéshēng
America foreign student
'American students studying abroad'

(35) Měiguó de liúxuéshēng
America MARKER foreign student
'Foreign students studying in American'/
'American students studying abroad'

In (34), where there is no marker, *Měiguó* 'America' can only be interpreted as referring to the nationality/origin. In (35), where there is a marker, it can be interpreted not only as nationality/origin but also of geographical location.

If Paul is right that bare modifiers and marker modifiers are interpreted differently with respect to the property of the noun, one would expect that adjectives that refer to seemingly non-compatible qualities might not always lead to contradictions. For instance, one can use the following phrases to describe a student who has Chinese nationality and studies in America (36a), or vice versa (36b). This prediction is borne out, as shown in the Mandarin data below:

(36) a. Měiguó de Zhōngguó liúxuéshēng
America MARKER China foreign student
'Chinese students studying in America'

b. Zhōngguó de Měiguó liúxuéshēng
China MARKER America foreign student
'American students studying in China'

On the same thread, (37a) is not contradicting. (37b) and (37c) are, on the other hand, contradicting because adjectives of different value are modifying the same aspect of the noun:

Cantonese:

(37) a. zi^{1} laam^{4}sik^{1} ge^{3} hung^{4}sik^{1} bat^{1}
CL blue MARKER red pen
'a pen that is blue on the outside that writes red'

b.* zi^{1} laam^{4}sik^{1} ge^{3} hung^{4}sik^{1} ge^{3} bat^{1}
CL blue MARKER red MARKER pen

c.* zi^{1} laam^{4}sik^{1} hung^{4}sik^{1} bat^{1}
CL blue red pen

Note that (37a) cannot be interpreted as a pen that is red on the outside and writes blue. Syntactic proximity corresponds to semantic proximity.

In sum, marker modifiers modify the temporary property of the noun while bare modifiers modify the inherent property of the noun.

2.2.3 Bare modifiers are also contrastive

In this section, I would like to suggest that both marker modifiers and bare modifiers can be contrastive, though the domain of contrast is different. Marker modifiers are contrastive in terms of temporary properties while bare modifiers are contrastive in terms of defining properties. Consider the following Cantonese examples:

(38) a. bei^{2} bui^{1} dung^{2} laai^{5}caa^{4} ngo^{5} aa^{1}, m^{4}goi^{1}
give CL cold milk-tea I SFP, please
'Give me a cup of cold milk-tea please.'

b. bei^{2} bui^{1} dung^{2} ge^{3} laai^{5}caa^{4} ngo^{5} aa^{1}, m^{4}goi^{1}
give CL cold MARKER milk-tea I SFP, please
'Give me a cup of cold milk-tea please.'

'Milk tea' is a local specialty in Hong Kong. The drink contains very strong black tea and very heavy cream. It can be served hot or cold (normally with ice). The hot one is referred to as *ji^{6} laai^{5}caa^{4}*, [hot milk-tea]. The cold one is referred to as *dung^{2} laai^{5}caa^{4}* [cold milk-tea]. In both cases, no marker is used. In a restaurant, if you want to order a cold version of the Hong Kong 'milk-tea', it is more natural to utter (38a) than (38b). In such a usage, even though the noun phrase in (38a), *dung^{2} laai^{5}caa^{4}* [cold milk-tea], contains no marker, it is still contrasting with the other existing version of milk-tea, i.e., the hot one. This indicates that bare modifiers are also contrastive. Using a marker element, as in (38b), gives an impression that cold 'milk-tea' is not a regular drink. The marker element is only used when the adjective and the noun do not form a culturally recognized group. Imagine a person who has got a very sensitive throat, for whom neither cold nor hot 'milk-tea' is good enough. He

wants some lukewarm 'milk-tea', which is not a typical request. In this case, since lukewarm 'milk-tea' is not a defining property of a milk-tea drink, a marker element must be used.

(39) a. bei^{2} bui^{1} lyun^{5} ge^{3} laai^{5}caa^{4} ngo^{5} aa^{1}, m^{4}goi^{1}
give CL warm MARKER milk-tea I SFP, please
'Give me a cup of lukewarm milk-tea please.'

b. # bei^{2} bui^{1} lyun^{5} laai^{5}caa^{4} ngo^{5} aa^{1}, m^{4}goi^{1}
give CL warm milk-tea I SFP, please
'Give me a cup of lukewarm milk-tea please.'

One is sure to get a 'what?' if one utters (39b) to order a drink in a café.

In the case in (39a), *lyun^{5} ge^{3} laai^{5}caa^{4}* [lukewarm-marker-milk-tea] contrasts with all the possible versions of milk-tea that is not typical: [boiling-hot-marker-milk-tea], [frozen-marker- milk-tea], [45 degree Celsius-marker milk-tea], or what have you.

What the above shows is that both bare modifiers and marker modifiers can be contrastive. The former contrasts with a defining property of the noun phrase while the latter contrasts with a temporary property of the noun phrase.

2.3 Conclusion

The distributive and interpretative differences between marker modifiers and bare modifiers in the inner domain are summarized below.

(40) Distributive differences:

a. All types of marker modifiers can appear in the inner domain, but there are semantic restrictions regulating the possible [bare modifier-N] combinations (see section 2.1.1).

b. Marker modifiers always precede bare modifiers. Bare adjectives obey ordering restrictions (Sproat and Shih 1991). Marker adjectives do not. Some marker modifiers can also be subject to ordering restrictions. Complement clauses with the marker have to be closer to the noun than relative clauses (RCs) with the marker. In a noun phrase containing both individual RCs and stage-level RCs, the former has to be closer to the noun (Del Gobbo to appear) (see section 2.1.2).

c. In cases with multiple modifiers, it is natural to have a pause after each marker modifier, but not after each bare modifier. It is also easier to stack up marker modifiers than bare modifiers (see section 2.1.3)

(41) Interpretative differences:

a. Marker modifiers express temporary properties while bare modifiers express defining properties (see section 2.2.2).

b. Both bare modifiers and marker modifiers are contrastive. Bare modifiers contrast with other bare modifiers expressing permanent properties. Marker modifiers contrast with other marker modifiers expressing temporary properties.

3. Marker modifiers are adjuncts; bare modifiers are specifiers

Marker modifiers can be as complex as relative clauses, indicating that they are maximal categories (as in (42)). Bare modifiers can contain in themselves a modifier-modifiee structure (as in (43)) or a relative clause (as in (44)). I assume that they are also maximal categories. The following examples are in Cantonese.

(42) go^{3} daai^{3} ngaan^{5}-geng^{2} ge^{3} naam^{4} jan^{2}
CL wear glasses MARKER man
'the/a man who wears glasses'

(43) gin^{3} coeng^{4} -zau^{6} saam^{1}
CL long sleeve shirt
'the/a long-sleeves shirt'

(44) faai^{3} faat^{3} -mou^{1} min^{6}baau^{1}
CL sprout-mould bread
'the/a slice of bread that is sprouting mould'

Marker modifiers always precede bare modifiers (see e.g. (18) and (19)). This indicates that they occupy different structural positions. In other words, in order to accommodate marker modifiers and bare modifiers in the structure, two distinct positions for maximal categories are needed between the classifier and the noun. I would like to suggest that marker modifiers are adjuncts to NP, while bare modifiers are NP specifiers. Making such a distinction goes against the idea that there is no difference between adjuncts and specifiers (see Kayne 1994, among others). Admittedly, neutralizing the distinction between specifiers and adjuncts has the merit of reducing structural primitives, however, this should not bring any loss in empirical coverage. Duffield (1999) provides empirical support for a specifier-adjunct distinction by comparing Adjective Phrases in Irish and Hebrew. One of his arguments is that in Irish, the ordering of APs are fixed vis-à-vis other APs, but in Hebrew, there is more freedom of ordering.

Irish (data from Sproat & Shih 1991):

(45) a. liathróid$_i$ bheag bhuí t_i
ball small yellow
'a small yellow ball'

b.?? liathróid$_i$ bhuí bheag t_i
ball yellow small

Modern Hebrew (data from Glinert 1989):

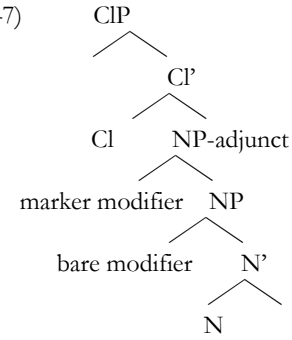
(46) a. ha-ke' lev ha-gadol ha-lavan
the-dog the-large the-white
'the large white dog'

b. ha-ke' lev ha-lavan ha-gadol
the-dog the-white the-large
'the large white dog'

Duffield (1999) argues the differences in the behavior of APs above are best captured by a specific-adjunct distinction. Irish APs are specifiers while Hebrew APs are adjuncts. For more arguments, the reader is referred to Duffield (1999).

In Chinese, the two types of modifiers in the inner domain (marker modifiers and bare modifiers) also exhibit sufficiently different distributive behavior to warrant them different categorical status. Compared with bare modifiers, marker modifiers exhibit more freedom in ordering as well as iteration. I assume that marker modifiers are adjuncts to NP and bare modifiers are specifiers of NP.

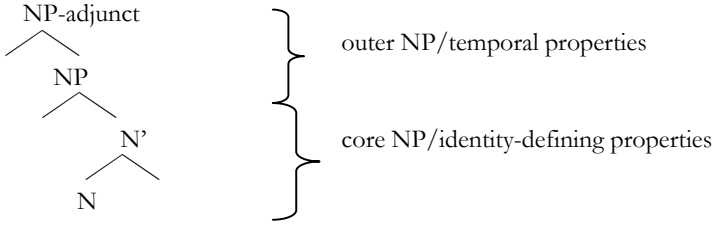
(47)



The structure in (47) explains why marker modifiers always precede bare modifiers. Regarding the observation that marker modifiers express temporary properties while bare modifiers express defining properties, I would like to suggest that the difference can be related to the positions of the two types of modifiers. I assume that the NP is divided into

two syntactico-semantic domains (à la Paul 2005), the core NP (including specifiers but excluding adjuncts) and the outer NP (adjuncts). If syntactic proximity corresponds to semantic proximity, it is expected that marker modifiers express temporary properties (being outside of the core NP) while bare modifiers express identity-defining properties:

(48)



Since there are cases where more than one bare modifier is present in the inner domain, the proposal above makes use of multiple specifiers as well as adjuncts. Specifiers of NP differ from adjuncts of NP in that specifiers need to be licensed by the N head. In the case at hand, the N head only licenses specifiers the content of which are non-deictic and those that express some defining property of the noun. There is, in other words, some kind of semantic licensing between the head N and SpecNPs. Marker modifiers are not restricted by such semantic requirements.

4. Non-intersective reading of bare modifiers

In Chinese (as well as many other languages), sometimes the meaning of the adjective alters when it combines with a noun.

(49) a. daai^{6} naam^{4}jan^{2} (Cantonese)
big man
'chauvinistic man' (NOT: 'big man')

b. dà nánrén (Mandarin)
big man
'chauvinistic man' (NOT: ' big man')

(50) a. cau^{3} naam^{4}jan^{2} (Cantonese)
stink man
'indecent man' (NOT: 'stinky man')

b. chòu nánrén (Mandarin)
stink man
'indecent man' (NOT: 'stinky man')

(51) a. lou^{5} pang^{4}jau^{5} (Cantonese)
old friend
'a friend of long standing' (NOT: 'a friend who is old in age')

b. lǎo péngyǒu (Mandarin)
old friend
'a friend of long standing' (NOT: 'a friend who is old in age')

c. lou^{5} leon^{4}geoi^{1} (Cantonese)
old neighbor
'a long-time neighbor'(NOT: 'a neighbor who is old in age')

d. lǎo língjū (Mandarin)
old neighbor
'a long-time neighbor' (NOT: 'a neighbor who is old in age')

In the examples above, the adjectives receive a 'special' reading, a reading that is different from their regular interpretations. [big-man] is not a man who is big, but rather a man who is chauvinistic; [stinky-man] is not a man who is stinky, but rather a man who is indecent; [old-friend] is not someone who is old, but someone whose friendship is old. When these adjectives are combined with these nouns, the resulting readings are not intersective, in the sense that they are not the intersection of two sets of properties. Following Larson (2000), let's call this the 'special' reading, the non-intersective reading.

Note that in these 'special' cases, the adjective and the noun have to be 'matched' in such a way that the 'special' reading can arise. These adjectives only get a 'special' meaning when they are combined with these nouns. For instance, when the adjective *daai^{6}* is combined with the noun *maau^{1}*, no special reading can arise.

(52) a. daai^{6} maau^{1} (Cantonese)
big cat
'big cat' (NOT: 'a chauvinistic cat')

b. dà māo (Mandarin)
big cat
'big cat' (NOT: 'a chauvinistic cat')

I have shown earlier that intersective [bare modifier-N] combinations are not compounds, in view of the fact that their internal structure is 'visible' to syntax (according to the Lexical Integrity Hypothesis). Based on the same test, I will show that non-intersective [bare modifier-N] combinations are also not compounds. This is shown in (53). The examples are in Cantonese. I highlight the noun phrase in discussion in boldface.

(53) A-N combinations (non-intersective):
ʔngo^{5} gok^{3} –dak^{1} **daai^{6}** **naam^{4}jan^{2}** bei^{2}
I think big man compare
naa^{2} –jing^{4} ge^{3} jau^{5} mei^{6}dou^{6}
woman-form MARKER have flavor
'I think bossy men are more attractive than sissy ones.'

For (53), speakers still prefer to have the empty noun after the marker spelled out. However, (53) is not ungrammatical. It is better than example (17) where the first noun phrase is a real compound (i.e. *ngaa^{4}gou^{1}* 'toothpaste'). I assume that the bare modifier in the 'special' meaning cases also occupies a syntactic position.

The special meaning is, in fact, only available when the bare modifier in question and the noun are adjacent to each other. This is illustrated in the following Cantonese examples:

(54) go^{3} cau^{3} ngoi^{6}zik^{6} naam^{4}jan^{2}
CL stink foreign man
'the/a stinky foreign man' (NOT: the/an indecent foreigner)

When a marker is used, the 'special' reading is also not available:

(55) go^{3} cau^{3} ge^{3} naam^{4}jan^{2}
CL stink MARKER man
'the/a stinky man'

Neither (54) nor (55) has the interpretation of that the man in question is indecent, which is the meaning one gets when *cau^{3}* 'stinky' and *naam^{4}jan^{2}* 'man' are adjacent to each other as in (50). This suggests that *cau^{3}* 'stinky' does not change its meaning when it is not adjacent to the noun *naam^{4}jan^{2}* 'man'. I assume that when the adjective has a 'special' meaning, it is located in the SpecNP. Where there is more than one bare modifier, the bare modifier that has the potential to contribute to a 'special' reading can only give rise to the reading only if it is in the lowest SpecNP. When a marker is used, the potentially 'special' modifier is an adjunct to the NP, the 'special' reading, again, cannot arise.

5. Adjectival ambiguity

It has long been observed that A-N combinations may at times give rise to ambiguity, though theses cases are very restricted. Take English as an example:

(56) a. an old friend
b. a beautiful dancer

(56a) can mean either a long-time friend (non-intersective reading) or a friend who is aged old (intersective reading). (56b) can mean either a dancer who dances beautifully (non-intersective reading) or a dancer who looks beautiful (intersective reading). The intersective reading can also be called the predicative reading because when the adjective is placed in a predicative position or in a relative clause, only the intersective reading is left:

(57) a. The friend is old/ the friend who is old

b. The dancer is beautiful/the dancer who is beautiful

In (57a), *old* only means old in age. In (57b), *beautiful* only means beautiful looking.

Larson (2000) claims that the different interpretations arise from differences in modification domain. In particular, he argues that there are two distinct positions for the adjective in question, each of which will give rise to a different reading[3]:

(58) Det A B N

The adjective in position A gives rise to an intersective reading while the adjective in position B gives rise to a non-intersective reading. Details aside, the idea that concerns us here is the distance from the noun. The position that is further away from the noun gives rise to an intersective reading, while the position that is closest to the noun gives rise to a non-intersective reading.

The prediction is that if both A and B are filled with the same adjective, the one in A will be interpreted intersectively, while the one in B will be interpreted non-intersectively. This is borne out in the following example:

(59) an old old friend

(59) can be interpreted in different ways. The first reading is that the first 'old' intensifies the second 'old'. This is a reading that is ignored here. The other interpretation, which is the one of interest here, refers to 'a friend of long standing who is old in age'. For this interpretation, there is often a pause between the two instances of 'old' when pronounced. Some people find this reading marginal. Nevertheless for those who accept it, there is no dispute in that the 'old' closest to the head noun is interpreted non-intersectively while the one further away from the noun is interpreted intersectively.

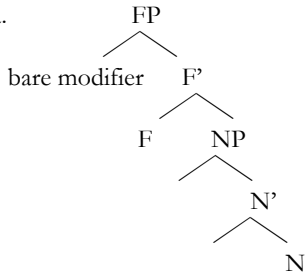
As shown earlier on, there are also phrases like 'old friend' (and quite a few others) in Chinese where the meaning of the 'adjective' shifts from their regular meaning when it is combined with a particular noun. However, the interesting thing is that in Chinese, there is

[3] The schema given in (58) is simplified version of Larson's (2000) idea. See Larson (2000) for details.

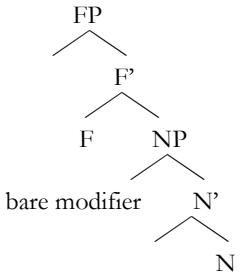
no ambiguity. In the case of the Chinese [old-friend], one only gets the reading of a friend whose friendship is old. When referring to an old age friend, a marker is used, [old-marker-friend].

The lack of ambiguity argues against the idea that in Chinese, there is a hierarchy of functional projections right on top of the NP, which determines the ordering of bare modifiers. The reason is the following. If there were a hierarchy of functional projections on top of the NP, and the 'special' reading can only arise when the potentially 'special' modifier is in SpecNP, one would expect ambiguity as the potentially 'special' modifier can have a choice to be in the specifier position of one of the functional projection within the hierarchy or to be in SpecNP:

(60) a.



(60) b.



(60a) gives rise to a regular reading of the adjective since the adjective is not in SpecNP, while (60b) gives rise to a 'special' reading of the adjective.

On the other hand, if there does not exist a hierarchy of functional projections on top of the NP, and all bare modifiers are in SpecNP, the lack of ambiguity can be accounted for. When there is only one bare modifier, it has to be in SpecNP, and being the only one, it is in the lowest SpecNP, the 'special' reading has to arise. [4]

[4] This rests on the assumption that whenever the bare modifier and the noun are of the right combination to give rise to a 'special' reading and the structural requirement is matched (the bare modifier is in the lowest Spec), the 'special' reading arises obligatorily.

Moreover, having a hierarchy of functional projections on top of the NP also predicts the existence of the following expression:

(61) *jat^{1} go^{3} lou^{5} lou^{5} pang^{4}jau^{5}
one CL old old friend

(61) is predicted to be possible if the first 'old' from the left is the one in SpecFP while the 'old' closer to the noun is in SpecNP. The non-existence of (61), again, testifies against the existence of a hierarchy of functional projections on top of NP. The question is then what the Chinese equivalent of 'an old old friend' is.

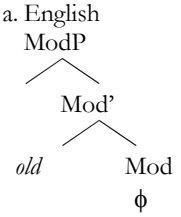
In Chinese, when a marker is used, the 'special' reading is lost. The presence of ambiguity in English and the lack of it in Chinese can be related if one relates the adjective in the outer position (the one that is further from the noun) in Larson (2000) with the marker modifier in Chinese, and the adjective in the inner position (the one that is closer to the noun) in Larson (2000) with the bare modifiers in Chinese. Thus, the Chinese equivalent of (59), which is repeated here as (62a), will be (62b):

(62) a. an old old friend
b. jat^{1} go^{3} lou^{5} ge^{3} lou^{5} pang^{4}-jau^{5}
one CL old MARKER old friend

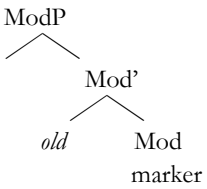
Both (62a) and (62b) mean an aged friend whose friendship is old. In Chinese, there is a marker element marking the adjective in the 'outer' position, while in English there is no marker element, thus, ambiguity arises. Marker modifiers always have an intersective/predicative reading.

Rubin (1997, 2003, in prep.), proposes that the marker element in Chinese is the head of a functional category ModP. In some languages, the Mod head is overt, as in Chinese, or other languages where a similar element appears in modification context (e.g. Tagalog, Romanian, etc.). In English, however, the Mod head is covert.

(63) a. English



b. Chinese



If Rubin's analysis is on the right track, it would provide a structural account for the differences between Chinese and English, at least in cases when the modifier is an adjective.

In English, ambiguity arises because one can never tell whether the adjective is the ModP or in SpecNP. In Chinese, when the adjective is in ModP, it is marked by an overt marker. No ambiguity arises.[5] His treatment of the marker element will be discussed in the following section, alongside other previous analyses of the marker element.

6. On the status of the marker element

Abney (1987) provides the following characteristics of functional categories:

(64) Characteristics of functional categories:

a. Functional elements constitute closed lexical classes.

b. Functional elements are generally phonologically and morphologically dependent. They are generally stressless, often clitics or affixes, and sometimes even phonologically null.

c. Functional elements are usually inseparable from their complement.

---

[4]Wei (2004) observes that in Mandarin one does, at times, get ambiguity in [bare modifier-N] phrases. For example:

(i) tā dà zuǐbà
he big mouth
1st reading: 'His mouth is big.' (intersective reading)
2nd reading: 'He is gossipy.' (non-intersective reading)

Note that the ambiguity disappears if the verb is made explicit (a numeral and a classifier have to be added to make the sentences sound natural):

(ii) tā yǒu yī ge dà zuǐbà
he have one CL big mouth
'He has a big mouth (as in size).' (intersective reading)

(iii) tā shì yī ge dà zuǐbà
he MARKER one CL big mouth
'He is gossipy.' (non-intersective reading)

Interestingly only in (ii), with the intersective reading, can *de* be added, but not (iii).

(iv) tā yǒu yī ge dà (de) zuǐbà
he have one CL big MARKER mouth
'He has a big mouth (as in size).' (intersective reading)

(v) tā shì yī ge dà (*de) zuǐbà
he BE one CL big MARKER mouth
'He is gossipy.' (non-intersective reading)

The contrast suggests that only an intersective reading is compatible with *de*, though a non-intersective one can appear either with *de* or without *de*. The intersective reading in (i) can be viewed as *de* deletion. The two readings in (i) are caused by two underlying different structures.

d. Functional elements lack 'descriptive content'. Their semantic contribution is second-order, regulating or contributing to the interpretation of their complement. They mark grammatical or relational features, rather than picking out a class of objects.

Rubin (in prep.), base on the above criteria, argues that the marker element in Chinese is a functional element.

With respect to (64a), in Chinese, Rubin points out that there are not many other elements that function like the marker, if there is any. The marker, more or less, stands as the sole member of its category. In this sense, it does constitute a closed lexical class. As for (64b), Rubin argues that there is no direct evidence for it. Chinese is an isolating language. The marker, like other words in the language, is an independent morpheme and it's not dependent phonologically. It does not provide us with any direct evidence one way or the other for the status of the category the marker realizes with respect to (64b). Lisa Cheng (p.c.) points out that there might still be evidence in Chinese to verify (64b). For instance, she notes that the marker element, *de*, in Mandarin is toneless. In fact, the marker element in Wenzhou, *ki*, is also toneless. Furthermore, the marker element can never be stressed for emphasis. This suggests that the marker element is phonologically weak. As for (64c), the marker element always appears following the phrase that contains the content of modification. The marker can never appear without the modifier.

(65) *marker-noun

Rubin (in prep.) uses the following Mandarin examples to illustrate that the marker is inseparable from the modifier (the glosses are slightly modified):

(66) a. nà sān běn yǒu - qù de shū
that three CL interesting MARKER book
'those three interesting books'

b. yǒu - qù de nà sān běn shū
interesting MARKER that three CL book
'those three interesting books.'

c.* yǒu - qù nà sān běn de shū
interesting that three CL MARKER book
Intending reading:' those three interesting books'

Although the modifier *yǒu-qù de* 'interesting' can appear either to the left of the demonstrative, as in (66b) or between the classifier and the noun, as in (66a), the marker and the content of the modification must occur together and may not be separated by the

latter, as in (66c). As for the last characteristic (64d), Rubin notes that the marker element in Chinese does not contribute any descriptive content to the constructions it appears in.

As pointed out by Rubin (in prep.), the idea that the marker is a functional element is in fact a shared view among Chinese linguists. He quotes Tang (1990), "[the marker] is a functional category which may select complements and marks a modification relation." Cheng (1986) (among others) claims that it is a realisation of C. In fact, as far as I know, no one who has worked on the status of the marker has ever treated it as anything other than a functional category. The controversial part is what functional category it is.

6.1 Simpson (2002)

6.1.1 Summary

Simpson (2002) analyses the Mandarin marker element, *de*, as a determiner (D) element, which is connected to modification in the sense that it opens a predicative restriction on the nominal. I concur with him that the marker element is related to predicative modification as is obvious from the intersective interpretation, but I will argue that the marker cannot be a determiner element. I first present a summary of his analysis below.

Chinese relative clauses are uniformly pre-nominal. Adopting a Kaynean approach to relative clauses, which disallows right adjunction, the derivation of a Chinese RC (67a) will proceed in the following manner (67b,c), as argued in Simpson (2002) (the following examples are in Mandarin):

(67) a. [qù Běijīng] de rén
go Beijing MARKER person
'the person who went to Beijing'

b. [de [$_{CP}$ rén$_i$ [$_{IP}$ t$_i$ qù Běijīng]]]

c. [[$_{IP}$ t$_i$ qù Běijīng]$_k$ [de [$_{CP}$ [rén$_i$] t$_k$]]

In (67b), the head noun *rén* 'person' moves from SpecIP to SpecCP. In (67c), the whole IP moves to the specifier position of the projection that is headed by the marker element *de*.

On the one hand, the marker *de* cannot be analyzed as a relativizer in a Comp position because the two possible positions for Comp allowed in a Kaynean RC system are either preceding the IP or following the head noun. On the other hand, unlike the 'relative particle' element that is sandwiched between the RC and the noun phrase in Amharic (as schematised in (68)), the marker cannot be analyzed as an Infl element that attaches to the

verb because Chinese is V-O. The verb and the marker are not adjacent when the subject is relativized (as schematised in (69)).

(68) I **met REL** (the) man

(69) **saw** him **marker** that man

In view of this, Simpson suggests that the marker element is a D element:

(70) [$_{DP}$ [$_{IP}$ t_i qù Běijīng]$_k$ [$_D$de[$_{CP}$ [rén $_i$]t_k]]

Simpson notes that there are a few potential problems in analyzing the marker element as D:

(71)
(a) More than one occurrence of the marker can appear within a noun phrase.
(b) The marker does not have any definite value.
(c) The marker can co-occur with the demonstrative.
(d) The marker is never found DP initially.

Simpson argues that these problems are merely apparent, or at least are shared by other languages.

For (71a), Simpson points out that the multiple occurrences of the marker do not necessarily mean that it is not D. Hebrew, Greek and Albanian, for instance, also allow multiple determiners.

Hebrew (data taken from Giusti 1997):
(72) ha-bayit ha-gadol
the-house the-big
'the big house'

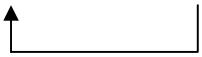
Albanian:
(73) djal-i i-mire
boy-the the-good
'the good boy'

Greek:
(74) afto to oreo to vivlio
this the good the book
'this good book'

For (71b), Simpson argues that there are many cases in which determiners do not contribute to definiteness. For instance, in Italian, proper names can co-occur with a definite determiner.

(75) a. il mio Gianni
the my Gianni

b. Gianni$_i$ mio t$_i$



Simpson points out that Longobardi (1994) argues that the definiteness of the DP is established by N to D movement of the proper name. This can take place overtly as in (75b), or an expletive determiner can be inserted into D; the proper name then undergo N to D movement at LF. In other words, the determiners are simply fillers of a position.

Furthermore, Simpson observes that in Albanian, the presence of a definite article with an adjective has no relation to the definiteness value of the DP, as shown below (data from Giusti 1997)):

(76) nje djale i mire
a boy the good
'a good boy'

Similarly, Simpson points out that in English, the use of a definite article does not necessarily mean 'definite', in the sense that it is familiar to the discourse (again, data from Guasti 1997):

(77) I bet you'll never find the secretary of a deputy who's willing to testify against him.

Finally, Simpson notes that in French, inalienable possession is expressed with the definite determiner, while in English, it is expressed with an indefinite one.

(78) Olga a le bras enflé
Olga has the arms swollen
'Olga has a swollen arm.'

Simpson concludes that it is not obligatory that determiners express definiteness.

As for (71c), Simpson argues that in a lot of other languages, e.g. Spanish, demonstratives and determiners can co-occur.

(79) el hombre este
the man this
'this man'

Following Grosu (1988) and Giusti (1997), he assumes that the demonstratives are not D heads, rather they are inserted as XPs in some specifier position lower than D. Thus, the co-occurrence of the marker and the demonstrative is expected.

As for (71d), Simpson argues that assuming that the marker is enclitic, the observation that the marker never occurs noun phrase initially can be explained. It is because the marker, being enclitic, requires phonological support. Assuming that the marker is in D, it will attract an XP-element to SpecDP.

In sum, Simpson (2002) treats the marker element as a D element that is a clitic. This assumption leads to the potential problems as listed in (71). Simpson argues that these problems are either simply apparent or are shared by different languages. For Simpson, the potential problems in (71) are not strong enough to falsify the claim that the marker is a D.

6.1.2 The encoding of definiteness and problems

Since Simpson (2002) claims that the marker, even though it is in D, does not encode definiteness, some other means of encoding have to be used. Following Szabolcsi (1994), Simpson argues that definiteness is some specification of a lower position hosting the demonstrative and certain quantifiers, some kind of concord/agreement is established between the lower position and the D head. Such concord/agreement might result in having a definite article instead of an indefinite one inserted into the D head (see chapter 4 for similar ideas). In Chinese, Simpson argues that "the definiteness specification of a DP is a direct function of a position where demonstratives and indefinite quantifiers may occur." Simpson illustrates this with the following Mandarin examples:

(80) a. wǒ de nèi běn shū
I MARKER that CL book
'that book of mine'

b. wǒ de liǎng běn shū
I MARKER two CL book
'two books of mine'

The overall definiteness of the noun phrases in (80a) and (80b) is related to the demonstrative in (80a) and the numeral in (80b). Simpson argues that the marker in Chinese

is a D that is under-specified for and neutral with regard to definiteness. It can be treated as a case of covert agreement with the definiteness specification lower than D.[6]

It is, however, problematic to claim that definiteness is always encoded in the demonstrative or the numeral. Problems arise in cases where there is neither a demonstrative nor a numeral lower than the marker.

(81) nèi běn **Zhāngsān** **de** shù
that CL Zhangsan MARKER book
'that book of Zhangsan's'

In (81), there is no demonstrative and numeral lower than the marker element. It is unclear as to where the encoding of definiteness comes from.

6.1.3 The connection between the presence of determiners and modification

If the marker is an enclitic that requires phonological support, any element that has a phonological matrix should be able to provide the support. However, as Simpson (2002) himself points out, the following is ungrammatical:

(82) *rén$_i$ de t_i
person MARKER

The question Simpson has to answer is why the NP in (82) cannot move to SpecDP to support the marker in D.

Simpson argues that there is a close relationship between the presence of determiners and the presence of modifiers. Simpson points out that, in Hungarian, the sequence *az…minder* 'the…every' is only licit if some additional modifying expression is included in the sequence:

(83) az *(en) minden allitas-om
the I every book
'my every book'

The situation in Hungarian is too different to be used as a comparison to the Chinese modification cases. First of all, Szabolcsi (1994) notes that there are only two types of elements that can intervene between the D elements (the articles: *a(z)* 'the' (or ϕ 'a') and the Det elements (*minden* 'every', *ezen* 'this', *melyik* 'which') (p.210). They are either overt

[6] There is a potential difference between under-specification and covert agreement. For covert agreement, the D head is still specified but simply lacks overt expression, while for under-specification, it is not.

possessors, as in (83), or pre-nominal participial modifier, as in *toled kapott* 'received from you', as in (84):

(84) a [tol-ed kapott] valamennyi level roved volt
the from-2SG received each letter(-NOM) short was
'Each letter received from you was short.'

In Chinese, the marker element can appear with all kind of modifiers. Thus, the parallel fails. Furthermore, (83) does not actually show that the D element (the article) cannot occur without a modifier (which is what Simpson wants to claim in Chinese; the marker cannot appear without a modifier). As stated in Szabolcsi (1994), what the data indicate is that D and Det cannot co-occur without an intervener.

In Hungarian, D (like D in most languages) can appear with a noun without a modifier. The following example is taken from Szabolcsi (1994, p.219):

(85) a találkozás
the meeting
'the meeting'

In other words, the claim that in Hungarian, there is a connection between the appearance of a D element and the appearance of a modifier does not hold.

If the marker is a D element, it is reasonable to assume that when there is only one marker, the marker is in the D position. In cases with multiple markers, the markers might be spread out in different locations, on a par with determiner spreading in Greek. However, the single appearance of the marker being in D creates the following problem. Consider the following two schemas:

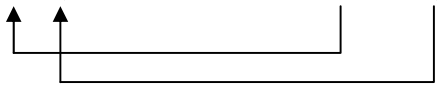
(86) modifier-marker- Dem-Cl-N
(87) Dem-Cl-modifier- marker-N

Assuming that the marker is in D and the demonstrative specifies the definiteness value in some specifier position lower than D, the schema in (86) will have the following structure:

(88) $[_{DP}$ modifier $[_{D}$ marker $[_{XP}$ Dem $[_{X}$ $[_{ClP}$ [Cl [NP]]]]]]]

Taking (86) as the base-order, phrasal movement of the demonstrative and head-movement of the classifier will be needed to derive (87).

(89) $[Dem_i$ [Cl_j $[_{DP}$ modifier $[_{D}$ marker $[_{XP}$ t_i $[_{X}$ $[_{ClP}$ [t_j [NP]]]]]]]



The problem is that both movements are not expected to be possible since they both violate Relativized Minimality (Rizzi 1990). The demonstrative has to move across the modifier while the classifier has to move across the marker.

Instead of treating the demonstrative as appearing in different places, it is more conceivable that the demonstrative is in fact stable, but the modifiers appear in different positions, especially when the modifier-marker in different positions (pre- or post- demonstrative) give rise to different interpretations:

(90) **modifier-marker** Dem-Cl-N
(91) Dem-Cl-**modifier** -**marker**-N

Chao (1968) and Hashimoto (1971) have noticed that when a relative clause appears to the left of the demonstrative, the reading is restrictive; when the relative clause appears to the right of the demonstrative, the reading is attributive. The difference is subtle but it is an observation that has been widely reported (see section 9 for discussion). It is unclear how movement of the demonstrative and the classifier can lead to a different reading of a separate element, namely the modifier, which is fixed in place.

I conclude that the marker cannot be a determiner element.

6.2 Den Dikken & Singhapreecha (2004)

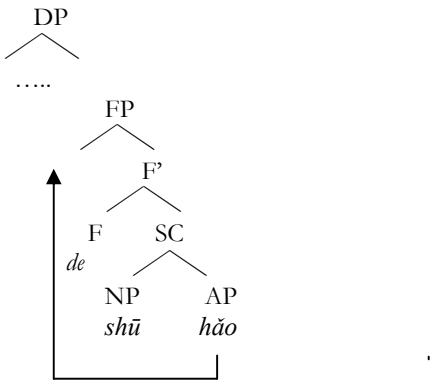
6.2.1 Summary

Den Dikken & Singhapreecha (2004) analyze the marker element in Chinese (they call it 'linker', but it will be glossed as 'marker' here for consistency) as a reflex of Predicate Inversion, explaining the presence of the marker and the predicative reading of the modifiers. This is illustrated by the following Mandarin example:

(92) hǎo de shū
good MARKER book
'good book(s)'

(93) a. [DP D (…) [FP [AP *hǎo*]$_i$ [F(=*de*) [SC [NP *shū*] t$_i$]]]]

b.



The AP starts out as the predicate of a small clause with the NP as the subject. The AP predicate inverts around its NP subject, via Predicate Inversion. Predicate Inversion gives rise to the emergence of the marker element. Similarly to other instances of Predicate Inversion (Moro 1997, Den Dikken 1995), the inverted predicate is presuppositional, giving rise to a contrastive reading.

They extend the analysis to cover cases where the modifiers are relative clauses, as in (94) and possessors, which is analysed as a Prepositional Phrase with an empty preposition, as in (95).

(94) a. wǒ mǎi de shū
I buy MARKER book
'the book(s) that I bought'

b. [DP D (…) [FP [IP wǒ mǎi]$_i$ [F(=de) [SC [NP shū] t$_i$]]]]

(95) a. wǒ de shū
I MARKER book
'my book(s)'

b. [DP D (…) [FP [PP ϕ wǒ]$_i$ [F(=*de*) [SC [NP shū] t$_i$]]]]

6.2.2 Problems

(i) Not all modifiers can be used as predicates

[modifier-marker] expressions have been analysed as reduced relative clauses (Cheng 1986, Sproat and Shih 1991, among others). It has also been noted that one of the problems in treating the modifier in an [modifier-marker] expression as originated as a relative clause is that non-predicative adjectives can also appear with the marker (Paul 2005, among others). In the Predicate Inversion analysis above where the modifier starts out as the predicate of a small clause, it faces the same problem ((96) is taken from Paul 2005, (97) is added for comparison).

(96) běnlái de yìsi
original MARKER meaning
'the original meaning'

(97) *zhè ge yìsi běnlái
this CL meaning original
Intended meaning: 'this meaning is original'

It is unclear as to why a modifier that cannot act as a sentential predicate, like *běnlái* 'original', can be the predicate of a small clause. More examples of this type can be found in Paul (2005).[7]

(ii) Obligatory inversion

In Chinese, [modifier-marker] expressions are always pre-nominal. Lisa Cheng (p.c.) points out that if modifiers are indeed generated as the predicate of a small clause, what needs to be explained is why predicate inversion is obligatory in all cases. In other words, why the following sequence in Cantonese is never attested:

(98) *naam^{4} jan^{2} fei^{4}
man fat
Intended reading: 'fat man'

(iii) Multiple occurrences of the marker element

One of the potential problems of Den Dikken & Singhapreecha's analysis lies in the multiple occurrences of the marker element within a noun phrase. They provided one example of this sort. Referring to Simpson (2002) and Tsao (1997), they point out that there are strict ordering restrictions in complex noun phrase constructions involving combination of a noun-complement clause and a relative clause, example (26) is repeated here as (99):

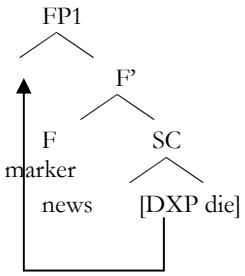
[7] This might not be a problem for Den Dikken & Singhapreecha (2004) if they assume that small clauses and full clauses are different in such a way that some elements might be able to appear as predicates in the former but not the latter.

(99) a. [wǒ zuótiān tīng- dào de] [Dèng Xiǎoíng sǐ de] xiāoxi
[I yesterday hear MARKER] [Deng Xiaoping die MARKER] news
'the news that Deng Xiaoping had died which I heard yesterday'

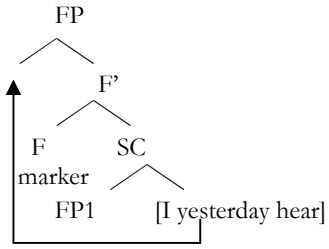
b.* [Dèng Xiǎopíng sǐ de] [wǒ zuótiān tīng- dào de] xiāoxi
[Deng Xiaoping die MARKER] [I yesterday hear MARKER] news

The analysis they provide for the sentences above involves two predication relationships. The relative clause is predicated of the constituent comprising the head noun and its 'complement', which also involves predication. The derivation would, as I understand, proceed in the following manner:
(DXP= Dèng Xiǎoping)

(100) Step 1



Step 2



The example they give, in which two relative clauses (one is a complement to the noun, the other is a modifier) obey straight ordering, is, in fact, a marked case. In most cases, the modifiers exhibit free ordering and a noun phrase can, potentially, have an infinite number of them. The following examples are in Mandarin:

(101) nèi běn [yǒu- qù] de [hóngsè] de shū
that CL [interesting] MARKER [red] MARKER book

(102)	nèi	běn	[hóngsè]	de	[yǒu- qù]	de	shū
	that	CL	[red]	MARKER	[interesting]	MARKER	book

Furthermore, the marker element can appear both to the left and to the right of the demonstrative.

(103)	[yǒu- qù]	de	nèi	běn	shū
	[interesting]	MARKER	that	CL	book

(104)	nèi	běn	[yǒu- qù]	de	shū
	that	CL	[interesting]	MARKER	book

It means that FP, whatever status it has, can be merged in either location. Further more, in each location, multiple FPs can be merged.

The question arises as to what the syntactic status of the functional projection that is headed by the marker element is, which would allow it to have such high degree of flexibility in terms of positions and reiteration. Note that, marker modifiers can never appear to the immediate left of the classifier. The following Mandarin example is ungrammatical:

(105)	*nèi	[yǒu- qù]	de	běn	shū
	that	[interesting]	MARKER	CL	book

Whatever the syntactic status of the functional projection that is headed by the marker element is, it has to be able to precede the noun, the demonstrative, the numeral (as in OMNs, see chapter 3 for discussions) but not the classifier.

To sum up, Den Dikken & Singhapreecha's analysis provides an interesting way of capturing the predicative reading of [marker modifier-N] expressions. However, when taken into consideration a larger array of data, their analysis cannot be the right analysis for Chinese.

6.3 Rubin (1997, 2003, in prep.)

6.3.1 Summary

(i) The marker element being a new syntactic category

Rubin (1997, 2003, in prep.) argues that that Mandarin marker, *de*, though clearly functional, does not belong to any existing functional category.

A lot of proposals have been made to treat the marker element as a complementizer (Cheng 1986, Huang 1994, among others). The claim that the marker is a complementizer in Chinese is supported by the observation that the marker appears with relative clauses. The following example is from Mandarin:

(106) nǐ zuì xǐhuān de nèi běn shū mài- wán le
youmost like MARKER that CL book sell-finish SFP
'The book that you like most is sold-out.'

Rubin (in prep.) argues that even though evidence of an overt C in Chinese is very rare, in some cases, they do show up. The word *shuō* in the following sentence, which literally means 'speak', is a case in point.

(107) tā gàosù lǐsì shuō jīntiān tiānqì hěn hǎo
he tell Lisi say today weather very good
'He told Lisi that today's weather is very good.'

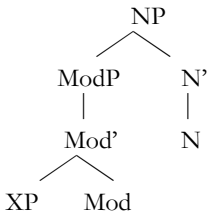
Another example is *yàoshi* , which is the Chinese equivalent of 'if':

(108) yàoshi tiānqì hǎo wǒ kéyi lái
if weather good I can come
'I can come if the weather is nice.'

Rubin suggests that *shuō* and *yàoshi* are best analyzed as members of C and they precede their complements. If the marker were indeed a member of C, one would not expect it to following the complement.

Rubin proposes that the marker element belongs to a category distinct from other previously acknowledged ones. Rubin tags it as Mod (short for Modification), considering that this element only appears in modification contexts. Mod is a universal category, though not all languages realize it overtly. The marker element in Chinese is an overt instantiation of the Mod head. A [modifier-marker] expression has the following structure:

(109)



XP is the modifier where Mod is the marker.

(ii) How to derive the interpretation

Rubin attributes the semantics of [modifier-marker] expressions to the syntactic element Mod itself. He takes that Mod is a function from properties to property modifiers, of the type <<e,t>, <<e,t>,<e,t>>>, as in (110b). The Mod head combines with its complement modifier in (110c), the resulting property modifier combines with the common noun, giving rise to an intersective reading, as desired.

(110) a. zài zhuōzi shàng de shū
at table top MARKER book

b. [de $_{Mod}$] = λPλQλ x[Q(x) ∧ P(x)]
c. [zài zhuōzi shàng de] =λQλ x [Q(x) ∧ on (the table) (x)]
d. [zài zhuōzi shàng de shū] = λ x [book (x) ∧ on (the table) (x)]

Den Dikken & Singhapreecha (2004) capture the intersective reading structurally by base-generating the modifier as the predicate of a small clause. The semantics is derivable from the modifier's structural relation to the noun. For Rubin, the semantics comes from the lexical properties of the marker element itself.

(iii) How to merge the marker into the syntactic tree

In view of the fact that modifiers are optional in a structure, Rubin (2003, in prep.) proposes that the [modifier-marker] sequence is merged into the tree as an adjunct. In Chomsky (2001a), adjunction involves pair-Merge. Rubin (2003, in prep.) raises the question as to how Narrow Syntax (NS) determines when pair-merge is appropriate. Rubin argues that the mechanism for determining pair-Merge has to be a syntactic one. In particular, he claims that any phrase headed by Mod is subject to pair-Merge. The Mod head signals to NS to carry out pair-Merge.

6.3.2 Pros and Cons of the ModP analysis for the marker element

(i) Pros

The advantages of the ModP analysis are the followings. I mentioned that one of the problems in Den Dikken & Singhapreecha's (2004) analysis is that even modifiers that cannot be sentential predicates can appear with a marker.

(111) a. *zhè ge yìsi běnlái
this CL meaning original
Intended meaning: 'this meaning is original'

b. běnlái de yìsi
original MARKER meaning

běnlái 'original' seemingly cannot be used predicatively. It is unclear why they can be the predicate of a small clause. In Rubin's analysis, the problem does not arise. In Rubin's system, the intersective reading comes from the marker element. Thus, modifiers that cannot appear in a predicate position can still get the intersective reading from the marker.

In both Simpson's (2002) analysis, where the marker is treated as a D and Den Dikken & Singhapreecha's (2004) analysis, where the marker is treated as some functional head within the nominal domain, the surface form [marker-modifier] is not a constituent to the exclusion of the complement of the marker. Both analyses would require a complicated story to account for the multiple occurrences of the marker element and their freedom in attachment. Rubin's (2003, in prep.) adjunction analysis, which takes [modifier-marker] as one constituent, allows a simpler account for multiple occurrences of marker modifiers in different places if one assumes that ModP can adjoin to different places.

(ii) Cons

There is, however, at least one potential problem for Rubin's analysis. It has to do with head directionality. In Rubin's system, ModP is head final. Chinese, being a V-O language, it is reasonable to assume that it is head-initial. Moreover, as he himself points out, functional elements like P and C always precede their complements in Chinese, if ModP is a functional category, it may also be the only one that follows its complement. Rubin (p.c.) points out that this is only a problem if one ascribes to the view that directionality of functional heads cannot vary within a language. He also suggests that even if it is the case that ModP is head-initial, moving the complement to a higher position can derive the surface complement-head ordering.

Lisa Cheng (p.c.) suggests that a possible way to derive the complement-head ordering while keeping the uniform head-initial status in Chinese is to move the complement to SpecModP. Marker elements in Chinese are phonologically weak (e.g. the marker elements, *de* in Mandarin and *ki* in Wenzhou, are tone-less). The need for phonological support could be a potential trigger for complement to specifier movement.

7. Applying Rubin's (1997, 2003, in prep.) adjunction analysis to Chinese

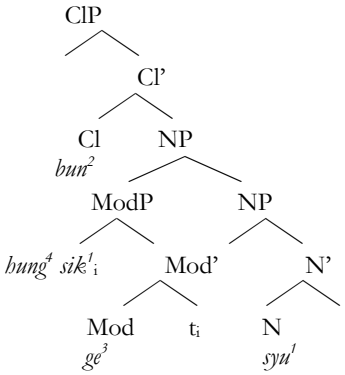
Rubin's analysis ties in with my idea that marker modifiers are adjuncts. I will adopt his treatment of the marker element for Chinese. The impetus for treating marker modifiers as adjuncts, for me, is due to their flexibility in distribution. Rubin arrives at the same conclusion, though via different routes. His motivation is to link the fact that the marker only appears in modification contexts with the fact that modifiers are often optional in a structure. In my analysis, modifiers without markers are specifiers, even though they are

also optional. In other words, I don't equate optionality with adjunct status. For me, not all modifiers are ModPs. Only marker modifiers are ModPs. With respect to marker modifiers, I would adopt Rubin's treatment for the marker element, including the fact that the semantic type of the marker would always give rise to an intersective reading and the idea that it is the Mod head that indicates adjunction/pair-merge. This not only attributes the reason why marker modifiers are adjuncts to their internal make-up, it also provides a theoretical base to tie the data with the current development of the theory of adjunction.

In view of the above, the position of a [marker modifier -noun] phrase in the inner domain is shown below using the following Cantonese example:

(112) a. bun^{2} [hung^{4}sik^{1} ge^{3}] syu^{1}
CL red MARKER book

b.



The Mod head *ge*^{3} indicates to Narrow Syntax that ModP has to be merged as an adjunct. The marker element, *ge*, has the semantic type of <<e,t>, <<e,t>,<e,t>>>. It combines with its complement modifier 'red' (<e,t>) and the noun 'book' (<e,t>) to give rise to an intersective reading of a property which is both red and a book.

7.1 The pre-and post-demonstrative marker modifiers

In Chinese, a [modifier-marker] phrase can appear both before the demonstrative and after the demonstrative. This is schematized below:

(113) a. [modifier-marker]-Dem-Cl-N
b. Dem-Cl-[modifier-marker]-N

The question arises as to whether the higher (pre-demonstrative) occurrence of the [modifier-marker] sequence is a result of base-generation or movement.

I argue that the pre- and post demonstrative [modifier-marker] occurrences are not related by movement based on the following grounds:

(114)
(i) After the [modifier-marker] sequence is merged into the tree as an adjunct, it is not possible to move it subsequently.
(ii) This movement violates Relativized Minimality (Rizzi 1990).

7.2 Adjuncts can't move

In what follows, I will review Stepanov's (2001) ideas on adjunction and give a quick recapitulation of Rubin's treatment on adjunction as presented earlier on. The goal is to argue that in neither analysis can we possibly treat the higher occurrence of the [modifier-marker] sequence as a result of movement.

(i) Stepanov (2001)

Stepanov (2001) argues that if one adopts the economy condition stating that the application of Merge should not change the set of c-command relations in the existing structure (Chomsky's 2000 Least Tampering), it follows that all instances of substitution should precede all instances of adjunction. He notes that there are two dichotomies in Chomsky's system: the interpretable/uninterpretable dichotomy, and the substitution/adjunction dichotomy. Adopting a reductionist's approach, he links the two dichotomies by defining substitution and adjunction in the following manners:

(115) Substitution:
A non-projecting syntactic object α is Merged with a syntactic object β by substitution iff the label of α contains active ("unchecked") uninterpretable feature(s).

(116) Adjunction
A non-projecting syntactic object α is Merged with a syntactic object β by adjunction iff the label of α contains no active ("unchecked") uninterpretable feature(s).

In Stepanov's system, the choice between substitution and adjunction hinges on the trigger for merge. If the trigger is uninterpretable features, then a syntactic object is merged by substitution. If the trigger is anything else, it is by adjunction.

If Stepanov is correct in saying that all instances of substitution should precede all instances of adjunction (substitution is cyclic; adjunction is post-cyclic), it is then unclear, how the Merger of the adjunct [modifier-marker] phrase, which is post-cyclic, can be reconciled with

the subsequent movement of the [modifier-marker] phrase, which is supposed to be a cyclic operation.

Stepanov does, however, mention the following (Stepanov 2001, p. 109): "I am thus driven in the view that movement resulting in adjunction must be triggered by some property of the target of movement only (e.g. EPP or strength). In contrast, movement resulting in substitution must involve an uninterpretable feature of the element that moves, along with a property of the target of movement (Chomsky 2000)."

In other words, the higher occurrence of the [modifier-marker] sequence can be related to the lower one by movement and yet at the same time is merged by adjunction if there is a property of the target that requires movement, for instance, an EPP feature. It is, however, difficult to argue that the target has an EPP feature that needs satisfying at all times because [modifier-marker] phrases, like other modifiers, are optional in a structure. Their absence will never crash a derivation, which is unexpected if their presence is to satisfy some inherent deficiency of some head.

(ii) Rubin (2003, in prep.)

Rubin (2003, in prep.) adopts Chomsky's (2001a) treatment of adjunction via pair-merge, leaving adjuncts exempt from normal c-command relations since they occupy "a separate plane" (Chomsky 2001, p.18), saving the need to sacrifice strict cyclicity. As mentions before, Rubin suggests the presence of the Mod head signals Narrow Syntax (NS) to carry out pair-merge.

Consider again the pre and post- [modifier-marker] case:

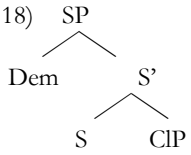
(117) a. [modifier-marker] -Dem -Cl -N
b. Dem-Cl- [modifier-marker] -Cl-N

Internal merge, the operation that results in displacement, is motivated by formal feature checking and is set-merge. [modifier-marker] phrases, headed by Mod, signal NS to carry out pair-merge. It is unclear then how NS would ever carry out a set-merge operation with a [modifier-marker] phrase. If this is true, then [modifier-marker] phrase can never move.

(iii) Violation of Minimality (Rizzi 1990)

In the discussion on the status of the demonstrative in chapter 3, I take the view that demonstratives are maximal projections and that they occupy some specifier position. In particular, I assume that in the surface, the demonstrative is in SpecSP.

(118)



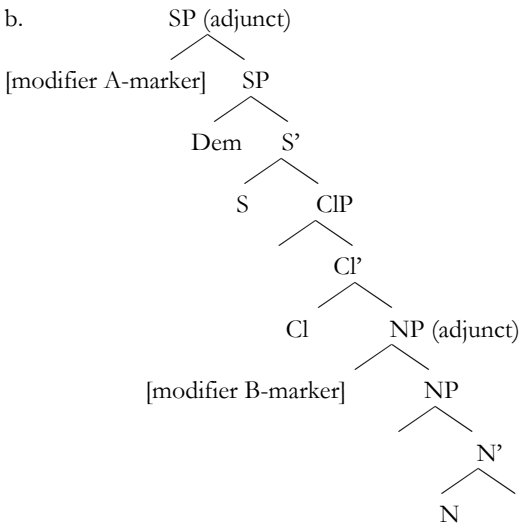
The demonstratives are maximal projections and [modifier-marker] are also maximal projections, moving the [modifier-marker] from below the classifier to above the demonstrative will violate Minimality (Rizzi 1990), and thus is expected to be impossible.

In view of the above, I conclude that the pre-demonstrative and post-demonstrative occurrences of [modifier-marker] phrases are not related by movement. Marker modifiers in different positions are merged into the tree as adjuncts. For the lower occurrence, it is adjoined to the NP. For the higher occurrence, I assume that it is adjoined to SP. SpecSP is filled if a demonstrative is present or some bare modifiers are present.

A phrase with both a pre-demonstrative and post- demonstrative [modifier-marker] phrases will have the following structure:

(119) a. [modifier A-marker] - Dem-Cl- [modifier B-marker]- N

b.



8. Modifiers in the SP layer

8.1 Modifiers to the left of the demonstrative

In the inner domain, bare modifiers are subject to a lot of restrictions. For bare modifiers that appear to the left of the demonstrative, such restrictions do not hold. Bare modifiers that appear to the left of the demonstrative can be deictic and they don't have to be some defining property of the noun. Consider the following Cantonese examples:

(120) ngo^{5} go^{2} bun^{2} syu^{1}
I that CL book
'that book of mine'

(121) ngo^{5} kam^{4}jat^{6} maai^{5} go^{2} bun^{2} syu^{1}
I yesterday buy that CL book
'that book that I bought yesterday'

In (120), the bare modifier is a possessor, thus deictic. In (121), the modifier is a relative clause. 'that book that I bought' is very unlikely to be a defining property of the noun. Furthermore, bare modifiers that appear to the left of the demonstrative can also order themselves rather freely. Consider the following example:

(122) daai^{3} ngaan^{5}geng^{2}, jau^{5}-sou^{1},
wear glasses have-beard
coeng^{4} tau^{4}faat^{3} go^{2} go^{3} naam^{4}jan^{2} le^{1}?
long hair that CL man QP
'Where is the man who wears glasses, has a beard and has long hair?'

The three bare modifiers in (122) can be reordered without causing ungrammaticality.

Complement clauses, however, need to be closer to the noun than modifiers:

(123) ngo^{5} kam^{4}jat^{6} sau^{1}-dou^{2}
I yesterday receive
jau^{5}gwaan^{1} zoeng^{2}hok^{6}gam^{1} go^{2} fung^{1} seon^{3}
about scholarship that CL letter
'The letter about scholarship that I received yesterday'

(124) * jau^{5}gwaan^{1} zoeng^{2}hok^{6}gam^{1}
about scholarship
ngo^{5} kam^{4}jat^{6} sau^{1}-dou^{2} go^{2} fung^{1} seon^{3}
I yesterday receive that CL letter

The behavior of bare modifiers to the left of the demonstrative seems to be very similar to marker modifiers in the inner domain. The question arises as to whether bare modifiers to the left of the demonstrative are in SpecSP or adjuncts to the SP layer, but with a covert

marker. There seems to be evidence supporting both sides of the coin. On the one hand, it is possible to have an expression of the following sequence:

(125) a. bare modifier-marker modifier-Dem-Cl-N

b. [ngo^{5} kam^{4}jat^{6} gin^{3} -dou^{2}]
I yesterday see
[coeng^{4} tau^{4}faat^{3} ge^{3}] go^{2} go^{3} naam^{4}jan^{2}
long hair MARKER that CL man
'The man who has long hair who I saw yesterday'

If the bare modifier in (125) is in SpecSP and the marker modifier is an adjunct to the SP layer. We would end up with a structure that adjuncts to the SP layer are closer to the S head than specifiers to the S head. Furthermore, the marker modifier can never appear to the immediate right of the demonstrative:

(126) *[ngo^{5} kam^{4}jat^{6} gin^{3} -dou^{2}]
I yesterday see
go^{2} [coeng^{4} tau^{4}faat^{3} ge^{3}] go^{3} naam^{4}jan^{2}
that long hair MARKER CL man

Assuming that the demonstrative is in the first SpecSP and the bare modifier in (126) is in the outer specifiers, it means that adjuncts can intervene between the first specifier and other specifiers, but can never be merged before the first specifier is merged. It is much simpler in this case to treat the bare modifier in (125) as an adjunct to the SP layer, but with a covert marker.

On the other hand, the presence or absence of the marker element seems to have a slight effect on the 'feel' of the expression. For instance, in Cantonese, for modifiers like temporal nominals and possessors, the absence of the marker is preferred.

(127) a.? ngo^{5} ge^{3} go^{2} bun^{2} syu^{1}
I MARKER that CL book
'that book of mine'

b. ngo^{5} go^{2} bun^{2} syu^{1}
I that CL book
'that book of mine'

(128) a.??kam^{4}jat^{6} ge^{3} go^{2} go^{3} naam^{4} jan^{2}
yesterday MARKER that CL man
Intended reading: 'that man yesterday'

b. kam^{4}jat^{6} go^{2} go^{3} naam^{4} jan^{2}
yesterday that CL man
'that man yesterday'

If bare modifiers to the left of the demonstrative are in fact marker modifiers with a covert marker, it is unclear how the contrast in acceptability in (127) and (128) can be accounted for.

What the above seems to suggest is the following. With respect to bare modifiers that appear to the left of demonstrative, bare modifiers that appear to the left of the marker modifiers are adjuncts (with a covert marker) while bare modifiers that appear to the left of the demonstrative but following marker modifiers are specifiers.

8.2 Bare modifiers to the immediate left of the classifier

Bare modifier can also appear in the SP domain when the demonstrative is not present. Consider the following Cantonese examples:

(129) a. toi^{2}-soeng^{6}-min^{6} bun^{2} syu^{1}
table-top-surface CL book
'the book on the table'

b. ngo^{2} bun^{2} syu^{1}
I CL book
'My book'

In chapter 3 and chapter 4, I assume that the bare modifier that appears to the left of the classifier is in SpecSP. Note that marker modifiers are not allowed to the immediate left of the classifier. A distinction between marker modifiers and bare modifiers is needed when a demonstrative is not present:

(130) * ngo^{2} ge^{3} bun^{2} syu^{1}
I MARKER CL book
'My book'

It is unclear to me at this point how to rule out (130), but the contrast between (129b) and (130) indicates that there is a difference between linker modifier and bare modifiers in the outer domain. I take that the contrast is one that is related to specifier-adjunct distinction.

Similar to the inner domain, there is a distinction between multiple specifiers and adjuncts in the SP domain. SpecSPs have to be licensed. Adjuncts to the SP layer don't. As observed in chapter 3, only an S head that is specified as definite would allow SpecSP to be filled. In other words, only a definite S head can license SpecSP. Marker modifiers, which are

adjuncts, are not subject to this condition. Thus, [marker modifier-Nume-Cl-N] phrases are possible even though the S head in a [Nume-Cl-N] phrase is not specified as definite. No licensing of SpecSP has taken place in a [marker-modifier-Nume-Cl-N] phrase. In addition to that, SpecSP is also the landing site of the demonstrative, which is base-generated in SpecClP. The movement is driven by the need to establish an Agree relation between the S head and the demonstrative in SpecSP. In sum, SpecSP and the S head are related either by Agree or definite licensing. Adjuncts to the SP layer, on the other hand, are not dependent on the S head.

8.3 Conclusion

Below are my conclusions regarding the structural status of bare modifiers in the SP domain:

(131)
a. In a [bare modifier-Cl-N] phrase, the bare modifier is in SpecSP.
b. When a demonstrative is present, the bare modifiers that appear to the left of the demonstratives are also in SpecSP, except when the bare modifiers are separated from the demonstrative by some marker modifiers. Then the bare modifiers to the left of the marker modifiers are in fact marker modifiers with a covert marker.

9. The different domains of modification

According to the analysis I proposed in chapter 3, the modifiers in the SP domain (including the demonstrative) constitute material that helps relating the noun phrase to a particular referent (or set of referents) in the discourse (i.e. a deictic reading). Modifiers that appear between the classifier and the noun are not related to referential properties. This is shown by the fact that predicates can also have modifiers in that position.

(132) keoi^{5} hai^{6} go^{3} sei^{3}ngaan^{5} ge^{3} baak^{6}ci^{1}
he BE CL four-eye MARKER idiot
'He is a four-eyed idiot (as in wearing glasses).'

In fact, the ability to function as a predicate indicates that the modifiers appearing between the classifier and the noun are restricting the general property (or the genus) of the noun. The binary contrast is stated as follows:

(133) Position/interpretation correlation of modifiers:

(a) Modifiers appearing in SpecSP (outer domain): restricting referent/deictic
(b) Modifiers appearing between the classifier and the noun (inner domain): restricting the property of the head noun/generic

Assuming (133), the prediction is that even with the same modifier, interpretations should differ depending on which domain the modifier is in. In fact, Chao (1968) and Hashimoto (1971) noted decades ago that modifiers appearing before and after the demonstrative differ in interpretation. When a relative clause precedes the demonstrative, it is restrictive; when it follows the demonstrative, it is descriptive.

(134) a. nà ge **dài** **yǎnjìng** **de** nánhái
that CL wear glasses MARKER boy

b. **dài** **yǎnjìng** **de** nà ge nánhái
wear glasses MARKER that CL boy

Huang (1982) accounts for the interpretative contrast in (134a) and (134b) in terms of scope of modification. If the relative clause is in the scope of the demonstrative, the demonstrative fixes the referent of the 'head' of the relative clause. The relative clause is then used non-restrictively. When the demonstrative is in the scope of the relative clause, the demonstrative is interpreted anaphorically. It is then the relative clause that provides clues to determine the referent of the 'head' noun. Note that, as pointed out by Del Gobbo (in press), non-restrictiveness in Huang's (1982) terminology is different from the use of the same term in describing English relative clauses, as in the following example:

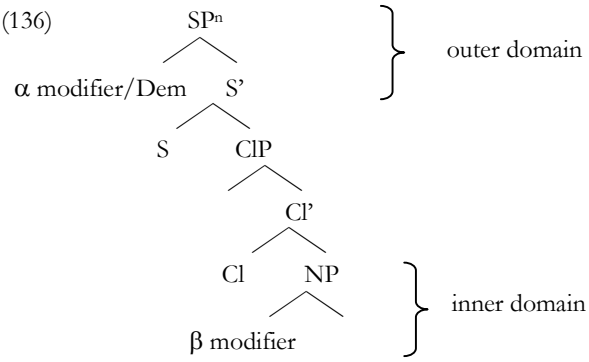
(135) The surgeon, who happens to be a cousin of mine, is going to operate on me.

Huang (1982) uses the term 'non-restrictive' to mean that the relative clause itself does not carry out the function of specifying the referent, but the preceding demonstrative does, as in (134a). But still the relative clause contributes to picking out the referent by modifying the property of the noun. In the English example (135), the relative clause is simply extra information.[8]

My proposal can also account for the contrast in (134), though in a slightly different way.
In my system, there are only two domains for modifiers in Chinese. Modifiers can either be placed between the classifier and the noun, or in SpecSP/adjunct to SP. In the representation below, I am collapsing the SpecSP with adjunct to SP for ease of representation.

[8] I will not discuss the equivalent of (135) in Chinese. The reader is referred to Del Gobbo (2003), who argues that there is no non-restrictive relative clause in Chinese. See also Teng (1987) for a similar point.

(136)



α modifiers, which precede the demonstrative when a demonstrative is present, are interpreted as deictic because they indicate the routes through which a referent can be picked out. As opposed to β modifiers, which modify the head noun, the property of the noun. Assuming that modifiers modify the heads they are the specifiers of, a binary contrast of the one exhibited in (134) is expected. In (134a), the modifier is placed between the classifier and the noun. The modifier modifies the genus of the noun. In (134b), the modifier is placed in SpecSP. The modifier modifies referent of the noun. I suggest the descriptive/restrictive contrast is in fact a contrast between the modifier modifying the noun and the modifier modifying the referent. This is, in fact, similar to Huang (1982)'s observation that the RC in the inner position restricts the head, while the RC in the outer position restricts the referent. Though we differ in that, for him, the demonstrative is the referent-picking head, while for me, it is the S head that picks the referent. The demonstrative is in fact similar to a modifier.

Even though the contrast in (134) is real, it is very subtle. I would like to provide a Cantonese example where the contrast is more obvious. Consider the Cantonese examples below:

(137) Anne Klein gin^{3} saam^{1}
Anne Klein CL shirt
'Anne Klein's shirt (ownership)

(138) gin^{3} Anne Klein ge^{3} saam^{1}
CL Anne Klein MARKER shirt
'an Anne Klein shirt'

When the modifier *Anne Klein* appears on the left edge of the noun, the modifier can only be interpreted as the owner of the shirt. When the modifier *Anne Klein* is placed in the inner domain, one gets a brand name reading.

It is also possible for *Anne Klein* to appear in both places:

(139) Anne Klein gin^{3} Anne Klein ge^{3} saam^{1}
Anne Klein CL Anne Klein MARKER shirt
‘ Anne Klein’s Anne Klein shirt’[9]

(139) can be used in a context in which there is a girl called Anne Klein who has a shirt of the brand Anne Klein.

As would be expected, problems arise when the semantic of the modifier and the way of interpretation provided by the domain are incompatible. When one uses a modifier that is not compatible with a kind reading, putting the modifier in the inner domain will degrade the noun phrase drastically, as shown in the following Cantonese example:

(140) Joanna go^{3} bo^{1}si^{2}
Joanna CL boss
‘Joanna’s boss’

(141) # go^{3} Joanna ge^{3} bo^{1}si^{2}
CL Joanna MARKER boss
Intended reading: ‘Joanna’s boss’

10. Conclusion

In this chapter, I argued that in the inner domain (between the classifier and the noun), marker modifiers are adjuncts to NP while bare modifiers are specifiers to NP. The same adjunct/specifier dichotomy applies to marker modifiers and bare modifiers in the outer domain (the SP layer), except that when bare modifiers appear to the left of some marker modifiers, the bare modifiers are actually marker modifiers in disguise, with a covert marker.

In my proposal, I allow both multiple specifiers and multiple adjuncts. Specifiers and adjuncts, in view of my proposal of the Chinese nominal, differ in that specifiers need to be licensed by the head, though ways of licensing can vary. With respect to the inner domain, the head places semantic restrictions on the kind of modifier that can appear in its specifiers. Only non-deictic modifiers that express a defining property of the noun can appear in SpecNP. Marker modifiers, which are adjuncts to the NP, are not subject to the above restrictions. With respect to the outer domain, the demonstrative in the lowest SpecSP participate in an Agree relation with the head. In chapter 4, I have argued that only a

[9] In fact, the ownership and brand name differences are also indicated in the use of a genitive marker in English. *Anne Klein's shirt* can never have the brand name reading and *an Anne Klein shirt* can never have the ownership reading, indicating that in English, the positions of the modifiers are also relevant for the kind and deictic reading.

definite S head would allow SpecSP to be filled. It is tantamount to saying that only a definite S head can license elements in SpecSP. Again, marker modifiers are not subject to this condition. Marker modifiers can be adjoined to the SP layer even when the S head is indefinite as in a [marker modifier-Nume-Cl-N] phrase. In other words, specifiers are distinct from adjuncts in that specifiers need to be licensed by the head in one way or the other. In section 8, I show that modifiers in different domains, the inner domain and the outer domain, are interpreted differently. With the use of the same modifier, it gives a kind reading when it is in the inner domain and when it is in the outer domain, it is interpreted as deictic. The contrast can sometimes give rise to ungrammaticality if the content of the modifier is incompatible with the domain it is in.

Chapter 6 The Zhuang and Miao nominal phrases

1. Introduction

This chapter is devoted to two non-Sinitic languages, Zhuang and Miao, which are spoken in the southern provinces (areas of Yunnan, Guizhou, Hunan and Guangxi) in China. The specific variation of Zhuang presented here is the variety of Zhuang spoken in the Hechi area.[1] The Miao data is from the variety that is spoken in Yunnan.[2] The arrangement of the nominal elements in these two languages is very different from Chinese. The aim of this chapter is to provide an account of the nominal orderings in Zhuang and Miao based on the nominal structure proposed for Chinese in previous chapters, showing that Zhuang, Miao and Chinese data can be subsumed under a unified analysis, with a few language specific specifications.

This chapter is organised as follows. An overview of the forms and interpretations of Zhuang and Miao noun phrases will be presented in section 2 and 3 respectively. In section 4, I present the differences between the ordering of nominal elements in Chinese, Zhuang and Miao. In section 5, I discuss how the two-layer split in encoding referential properties is realized in Zhuang and Miao. In particular, I argue that in Chinese the lower referential layer is merged with the Classifier Phrase, while in Zhuang and Miao, the lower referential layer has its own projection. In section 6, I discuss the different status of the numeral 'one' in Chinese, Zhuang and Miao. In section 7, I spell out the interplay between the two referential layers in Zhuang and Miao. I conclude the chapter in section 8.

2. The Zhuang facts

Bare NPs. Bare NPs in Zhuang can be interpreted as definite, indefinite and generic. The generic reading is shown in (1). When they appear in subject position of episodic sentences, they only have a definite interpretation, as shown in (2) and (3). This shows that similar to Chinese, only definite noun phrases can appear in subject position. The indefinite reading is shown by their appearance in existential constructions as in (4). When a bare NP appears in object position, it is ambiguous between a definite and an indefinite reading as in (5). A generic reading is also possible pending appropriate contexts. Bare nouns, regardless of definiteness, can be interpreted as either singular or plural.

[1] Thanks to Lan Qingyuan (Institute of Ethnology and Anthropology, Chinese Academy of Social Sciences) for being my Zhuang consultant.
[2] Thanks to Li Yunbing (Institute of Ethnology and Anthropology, Chinese Academy of Social Sciences) for being my Miao consultant.

Generic:

(1) ma ngaeq gwn noh
dog like eat meat
'Dogs like to eat meat'

Definite:

(2) saw mbouj raen lo
book NEG see SFP
'The book(s) disappeared'

(3) ma cingq byaij gvaq majlu
dog right-now run pass road
'The dog(s) is/are crossing the road'

Indefinite:

(4) gwnz daiz miz yenjging, mwngz
above table have spectacle, you
bang gou dawz gvaq daeuj
help me bring pass come
'There are (a pair of/pairs of) spectacles on the table, you bring them to me.'

(5) gou ciengj cawx saw
I want buy book
'I want to buy a book/some books /the book(s).'

[Cl-N] phrases. [Cl-N] phrases in Hechi Zhuang cannot be used alone, either in object or in subject position, as shown in (6a) and (7a).[3] It has to be used either with the numeral 'one' or a demonstrative. When it is used with the numeral 'one', it is indefinite, as shown in (6b). When it is used with the demonstrative, it has a definite reading, as in (7b) and (7c).

(6) a. *gou bae cawx bonj saw
I go buy CL book
'I am going to buy a book'

[3] Some Zhuang speakers do allow the use of [Cl-N] phrases. For instance, in standard Zhuang (data from Lu Yongbin, affiliated to *guangxi minzu xueyuan* [Guangxi Minority Institute]), a [Cl-N] phrase can be interpreted as definite when placed in subject position. However, when it is placed in the object position, the speaker prefers to add either a demonstrative or the numeral 'one' after the noun. My analysis does not take into account variation in this area. For presentation purposes, I will only make use of the data I gathered from my consultant (who speaks Hechi Zhuang). Even though I am aware of this kind of microvariation, the account of which I will leave for further research.

b. gou bae cawx bonj saw ndeu
I go buy CL book one
'I am going to buy a book'

(7) a.* duz ma ngaeqgwn noh
CL dog like eat meat
'The dog likes to eat meat'

b. duz ma haenxngaeqgwn noh
CL dog that like eat meat
'The/That dog likes to eat meat.'

c. duz ma neix ngaeqgwn noh
CL dog this like eat meat
'This dog likes to eat meat.'

[Nume-Cl-N] phrases / [Cl-N-'one'] phrases. In Zhuang, the numeral 'one', *ndeu*, behaves differently from the other numerals. *ndeu* always follows the noun, as illustrated in (8). Other numerals, however, always precede the classifier, as illustrated in (9).

(8) gou bae cawx bonj saw ndeu
I go buy CL book one
'I am going to buy a book'

(9) gou bae cawx sam bonj saw
I go buy three CL book
'I am going to buy three books'

Phrases that involve numerals in Zhuang are always indefinite, unless a demonstrative is present. This can be shown by the fact that they can appear in the existential construction in (10) and (11).

(10) gwnz daiz miz sam bonj saw, mwngz
above table have three CL book, you
bang gou dawz gvaq daeuj
help me bring pass come
'There are three books on the table, bring them to me.'

(11) gwnz daiz miz bonj saw ndeu, mwngz
above table have CL book one you
bang gou dawz gvaq daeuj
help me bring pass come
'There is a book on the table, bring it to me.'

ndeu is in complementary distribution with other numerals, albeit occupying different positions. This is illustrated in (12). As shown earlier, in Zhuang, only definite noun phrases can appear in subject position. Phrases that involve numerals in the absence of a demonstrative cannot appear in the subject position, as illustrated in (13).

(12) * gou bae cawx sam bonj saw ndeu
I go buy three CL book one
Intended reading: 'I am going to buy three books'

(13) a. * sam duz ma ngaeq gwn noh[4]
three CL dog like eat meat
Intended reading: 'Three dogs like to eat meat.'

b. * duz ma ndeu ngaeq gwn noh
CL dog one like eat meat
Intended reading: 'A dog likes to eat meat.'

In previous studies on Zhuang (Liang 1986, Ji 1993, Qin 1995), it has been reported that there are in fact four words for expressing the cardinality of 'one' in Zhuang. They are *ndeu*, *he*^{1}, *nw:ng*^{6} and *it*^{4} . *ndeu*, *he*^{1} and *nw:ng*^{6} follow the noun and *it*^{4} precedes the classifier, just like other numerals. [5] Like the majority of numerals, *it*^{4} is borrowed from Chinese. In my analysis, I will only focus on *ndeu*.

[Cl-N-Dem] phrases. In Zhuang, the demonstrative, similar to *ndeu*, follows the noun. When a demonstrative is present, the expression is definite.

(14) duz ma haenx/neix cingq byaij vaij majlu
CL dog that/this right-now run pass road
'That/this dogs are crossing the road.'

[4] (13a) can be salvaged by adding a follow-up sentence like 'two dogs like to eat rice.', in which case, the numerals 'three' and 'two' actually have the meaning of 'three of which' and 'two of which'.

(i) sam duz ma ngaeq gwn noh, rong duz ma ngaeq gwn ngaiz
three CL dog like eat meat, two CL dog like eat rice
'Three of the dogs like to eat meat; two of the dogs like to eat rice.'

[5] My consultant only uses *ndeu* to express the cardinality of 'one'. The other three words are from different sources, thus, different transcription systems are used.

The demonstrative is in complementary distribution with the numeral 'one':[6]

(15)* duz ma haenx/neix ndeu cingq byaij vaij majlu
CL dog that/this one right-now run pass road
Intended reading: 'That/this dogs are crossing the road.'

(16)* duz ma ndeu haenx/neix cingq byaij vaij majlu
CL dog one that/this right-now run pass road
Intended reading: 'That/this dogs are crossing the road.'

The demonstrative, however, can appear with numerals other than 'one':

(17) sam duz ma haenx/neix cingq
three CL dog that/this right-now
byaij vaij majlu
run pass road
'Those/these dogs are crossing the road.'

3. The Miao facts

Bare NPs. Bare NPs in Miao can also be interpreted as definite, indefinite or generic. The generic reading is shown in (18). Similar to Chinese and Zhuang, in Miao, only definite noun phrases can appear in subject position. Thus, when a bare NP appears in the subject position, it can only be interpreted as definite, as shown in (19). When a bare NP appears in the subject position, it is ambiguous between a definite, an indefinite reading as well as a generic reading (pending appropriate contexts). In both the definite and indefinite readings, a bare NP can be interpreted as either singular or plural. This is illustrated in (20).

Generic:
(18) o^{55} n̥a^{24} tl̥ei^{55}
I like dog
'I like dogs'

Subject position:
(19) tl̥ei^{55} n̥tɕi^{44} tau^{31}
dog climb mountain
'The dog climbs the mountain.'

Object position:

[6] Wei and Qin (1980, p.45) say that *ndeu* and *it*^{4} (two of the four words for 'one') are incompatible with the demonstrative. Liang (1986) says that all 4 words for 'one' are incompatible with the demonstrative.

(20) o^{55} ʑa^{44} mua^{21} tl̥ei^{55}
I want buy dog
'I want to buy a dog/some dogs/the dog.'

[Cl-N] phrases. [Cl-N] phrases can only be interpreted as indefinite. This is shown by the fact that they can appear in existential constructions, as in (21), and they cannot appear in subject position, as shown in (22).

Indefinite:
(21) hou^{55} vaŋ^{31} i^{44} mua^{31} to^{21} tl̥ei^{55}
inside garden that BE CL dog
'There is a dog in the garden.'

(22) * to^{21} ntshai^{33} ȵa^{24} o^{55}
CL girl like me
Intended reading: 'The girl likes me.'

[Nume-Cl-N] phrases. Similar to Chinese and Zhuang, [Nume-Cl-N] phrases are always indefinite in Miao. This is shown by their ability to appear in existential constructions, as shown in (23). Unlike Zhuang, the numeral 'one' in Miao precedes the classifier, similar to other numerals, as shown in (24). The numeral 'one' and the other numerals are not compatible. This is shown in (25) and (26).

(23) hou^{55} vaŋ^{31} i^{44} mua^{31} pei^{43} to^{21} tl̥ei^{55}
Inside garden that BE three CL dog
'There are three dogs in the garden.'

(24) hou^{55} vaŋ^{31} i^{44} mua^{31} i^{43} to^{21} tl̥ei^{55}
inside garden that BE one CL dog
'There is a dog in the garden.'

(25)* hou^{55} vaŋ^{31} i^{44} mua^{31} i^{43} pei^{43} to^{21} tl̥ei^{55}
inside garden that BE one three CL dog
Intended reading: 'There are three dogs in the garden.'

(26)*hou^{55} vaŋ^{31} i^{44} mua^{31} pei^{43} i^{43} to^{21} tl̥ei^{55}
inside garden that BE three one CL dog
Intended reading: 'There are three dogs in the garden.'

[Cl-N-Dem] phrases. [Cl-N-Dem] phrases in Miao are always definite, as shown in (27). Similar to Zhuang, the demonstrative cannot co-occur with the numeral 'one', but is possible with other numerals, as illustrated in (28) and (29) respectively.

(27) o^{55} mua^{21} tou^{44} to^{21} tl̥ ei^{55} i^{44} lɛ^{24} ta^{21}
I buy get CL dog that SFP SFP
'I bought the dog.'

(28)*o^{55} mua^{21} tou^{44} i^{43} to^{21} tl̥ ei^{55} i^{44} lɛ^{24} ta^{21}
I buy get one CL dog that SFP SFP
Intended reading: 'I bought the dog.'

(29) o^{55} mua^{21} tou^{44} pei^{43} to^{21} tl̥ ei^{55} i^{44} lɛ^{24} ta^{21}
I buy get three CL dog that SFP SFP
'I bought those three dogs.'

4. Differences between the Chinese, Zhuang and Miao nominal phrases

The Chinese, Zhuang and Miao nominal phrases can be schematically represented as the followings:

Chinese:
Demonstrative – Numerals ('one' and others) – Classifier – Noun

Zhuang:
Numerals (other than 'one') – Classifier – Noun – Demonstrative/ 'one'

Miao:
Numerals ('one' and others) – Classifier – Noun -- Demonstrative

With respect to the ordering of elements in the nominal phrase, Zhuang differs from Chinese in the following respects:

(30)
a. The demonstrative follows the noun.
b. The numeral 'one' follows the noun.
c. The demonstrative cannot co-occur with the numeral 'one'.

With respect to the ordering of elements in the nominal phrase, Miao differs from Chinese in the following aspects:

(31)
a. The demonstrative follows the noun.
b. The demonstrative cannot co-occur with the numeral 'one'.

Zhuang and Miao differ in the position of the numeral 'one'. In Zhuang, the numeral 'one' follows the noun, while in Miao, it precedes the classifier. In both languages, the numeral 'one' is not compatible with the demonstratives, while the other numerals are.

5. The position of the demonstrative and the numeral 'one' in Zhuang

5.1 The two referential layers

In previous chapters, I have proposed a nominal structure for Chinese that involves two referential layers, the Specificity Phrase and the Classifier Phrase. The Classifier Phrase is where definiteness is encoded. The Specificity Phrase is where definiteness is interpreted. The idea that there are two referential layers in the nominal has been proposed in the literature by different authors based on different languages (Szabolcsi 1994, Hoekstra & Hyams 1996, Campbell 1996, Brugè 2002, Giusti 2002). The specific nature of the two layers and the mechanism in relating them differ in different proposals. A brief summary of the different proposals was presented in chapter 3.

Assuming the split is universal, languages can still vary in the mechanism that connects the two layers and the expression of the two layers, which consequently gives rise to language variation in the nominal domain. For Chinese, I have argued that the lower referential layer is the Classifier Phrase. In Zhuang, I will argue that a distinct layer takes up the job.

5.2 The lower referential layer in Zhuang and Miao

In Zhuang, the demonstrative *haenx/neix* 'that/this' and the numeral *ndeu* 'one' are in complementary distribution. I assume that the complementary distribution is a result of the two elements competing for the same position.

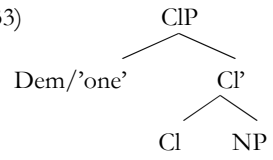
The question is what that position is. In Zhuang, the choice of the numeral 'one' or the demonstrative indicates the value of definiteness, the former being indefinite and the latter being definite. The presence of such elements, however, is not essential for expressing definiteness, as bare NPs can also be interpreted as either definite or indefinite. At any rate, I assume that the demonstrative and the numeral 'one' reside in a layer that is related to referential properties. With respect to the nominal structure that I assume for Chinese, there are two referential layers. The higher one is the SP layer and the lower one is the ClP layer. In view of this, one plausible position for the demonstrative and the numeral 'one' in Zhuang is the SP layer. However, considering the definition of the SP layer, the numeral 'one' cannot be located in the SP. The reason is the following. According to my proposal, the SP layer is only projected for specific noun phrases. The numeral 'one' can, however, appear in predicative noun phrases, which, by definition, lack the SP layer. This is shown in the example below:

(32) gou dwg boux lauxsae ndeu
I BE CL teacher one
'I am a teacher.'

If the numeral 'one' cannot be in the SP layer, then the demonstrative also cannot be in the SP layer, assuming that the numeral 'one' and the demonstrative are competing for the same position. They have to be located somewhere else.

Another option is to generate the demonstrative and the numeral 'one' in the lower referential layer, which for Chinese is the Classifier Phrase. Since the classifier is the head of the phrase, the demonstrative and the numeral 'one' have to be in SpecClP, as the classifier can co-occur with the demonstrative or 'one'. This gives rise to the structure below:

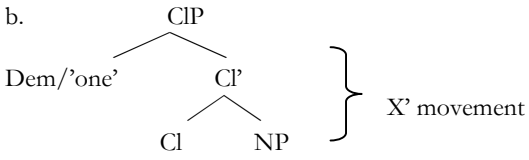
(33)



This, however, can't be the right structure. In the Zhuang nominal, the classifier and the noun precede the demonstrative and the numeral 'one'. This is schematized in (34a). Assuming the structure in (33), in order to derive the [Cl-N-Dem/'one'] ordering, Cl' (excluding SpecClP), has to move.

(34) a. Cl – N –Dem/ 'one'

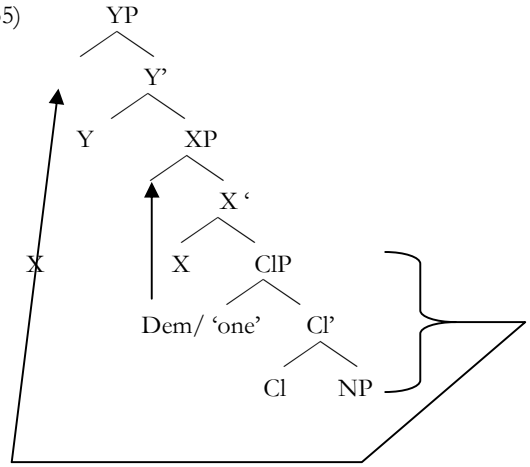
b.



Since Cl' is neither an X^0 nor an XP, I assume that such movement is impossible.

Another option, while keeping the structure in (33), is to first move the demonstrative and the numeral 'one' out of SpecClP to a higher position, say XP, followed by the movement of the remnant to a position higher than XP, say YP. This type of movement, however, is expected to be impossible. In (33), the demonstrative/ 'one' are both maximal. Since XP is lower than YP, the demonstrative/ 'one' that end up in SpecXP will block movement of the Classifier Phrase to SpecYP, in the spirit of Relativized Minimality (Rizzi 1990).

(35)

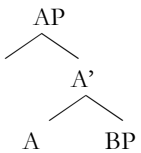


I conclude that (35) is not the right structure for Zhuang. In order for the classifier-noun sequence (being maximal) to move up to a position higher than Dem/'one', the dem/'one' has to be a head, otherwise, moving the classifier-noun pass the Dem/'one' will always violate Relativized Minimality (Rizzi 1990).

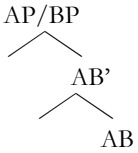
Maintaining the view that there are two referential layers in any nominal structure, I propose that the demonstrative and the numeral 'one' do occupy the lower referential layer, though unlike Chinese, the lower referential layer is not the Classifier Phrase.

It has been proposed in the literature that languages can vary in the possibility of 'fused' heads (Szabolcsi 1994, Cheng & Sybesma 1999, Munn & Schmitt 2002). For instance, for a functional head A, and a functional head B, where A selects B, A and B can exist as two separate heads, as in (36), or as one merged head, as in (37):

(36)



(37)

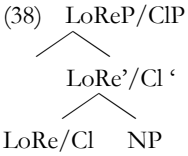


This type of head-merging has been proposed for the nominal domain in Szabolscsi (1994) and Munn & Schmitt (2001, 2002). Szabolcsi (1994) suggests that in many languages (e.g. English), the article is a conflation of a subordinator and a clause-type indicator. Munn & Schmitt propose that in Romance, semantic number and agreement are realized on different heads, while in English, the two heads 'fuse' into one. They call it the 'Free-Agr' hypothesis. A variation of the idea can be applied to the Chinese and Zhuang nominals with respect to the lower referential layer and the classifier.

In the nominal domain, there are two referential layers, one lower and one higher. The lower one is where definiteness is encoded while the higher one is where definiteness is interpreted. The higher one is SP. Let's call the lower one LoReP (Lower Referential Phrase).

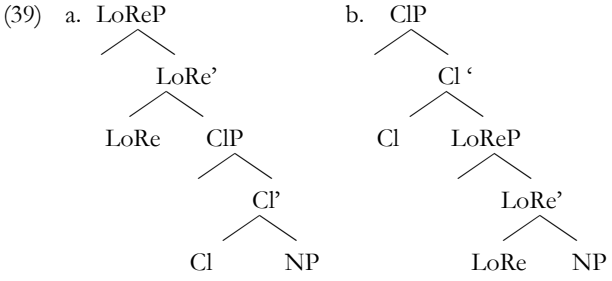
I propose that in Chinese, LoReP is merged with the Classifier Phrase, as illustrated in (38).

(38)



In Zhuang, LoReP and the Classifier Phrase exist as two separate projections. Assuming that merging of two functional heads requires hierarchical adjacency, there are two possible sequencings of the selection relation between LoReP and the Classifier Phrase.

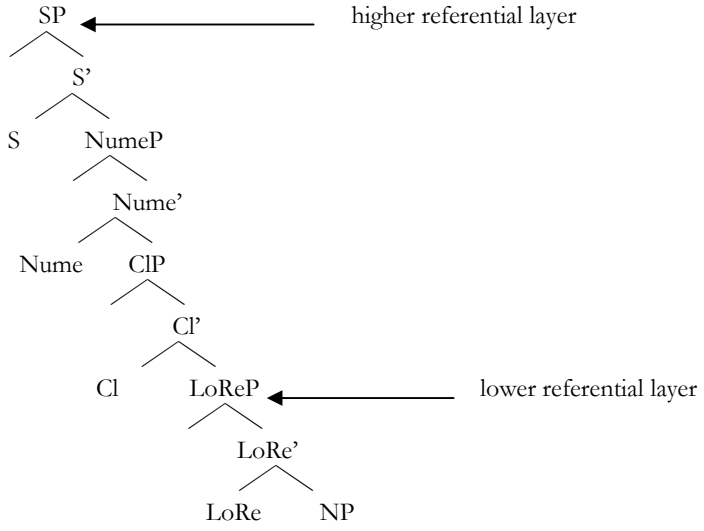
(39)



Both (39a) and (39b) are compatible with the analysis I am about to propose. In previous proposals that adopt a two D layer-split in the nominal phrase, the lower layer is assumed to be very close to the lexical core (Szabolcsi 1994, Campbell 1996, among others). Due to this theoretical consideration, I opt for (39b).

The functional super-structure of a Zhuang nominal can be represented as follows:

(40)



In order to derive the ordering [Nume-Cl-N-Dem/'one'], the NP has to move to a position that is between the classifier and the Dem/ 'one'. The only possible position for a phrasal element is SpecLoReP, which consequently means that the demonstrative and the numeral 'one' are heads, or else the movement will be blocked. I conclude that the demonstrative and 'one' head the LoReP projection.

Similar to Zhuang, the Miao demonstrative *I*^{44} is also incompatible with the numeral 'one', *I*^{43}. Moreover, the demonstrative also appears immediately after the noun. However, Miao differs from Zhuang in that the numeral 'one', *I*^{43}, appears before the classifier instead of after the noun. In view of the complementary distribution between the demonstrative and the numeral 'one' in Miao and the low occurrence of the demonstrative, I assume that Miao also has the structure in (40). The treatment of the Miao 'one' will be discussed in the next section, along with the numeral 'one' in Chinese and Zhuang.

6. The complicated status of 'one' in Chinese, Zhuang and Miao

6.1 The Chinese 'one'

In Chinese, taking Cantonese as the illustrating language, the numeral 'one', *jat*^{1}, plays two roles. It can be a regular numeral, which provides the object with the cardinality of 'one':

(41) jat^{1} bun^{2} syu^{1} / saam^{1} bun^{2} syu^{1}
one CL book / three CL book
'one book' / 'three books'

Sometimes, however, it behaves differently from a regular numeral. For instance, in Chinese, there is a plural classifier, which, when used on count nouns, refers to plurality of an unspecified amount. It cannot be combined with other numerals, except 'one'.

(42) *saam^{1} di^{1} syu^{1}
three CL$_{\text{-pl}}$ book
Intended reading: 'three books'

(43) jat^{1} di^{1} syu^{1}
one CL$_{\text{-pl}}$ book
'a few books'

The ungrammaticality of (42) shows that it is impossible to specify the number of the noun in individualized units with the plural classifier *di*^{1}. However, this plural classifier is compatible with the numeral 'one'. What this shows is that the numeral 'one' in (43) is not providing the cardinality of 'one' to count the noun with a single token of the classifier unit, as the plural classifier cannot individualize the noun into countable units.

This suggests that the numeral 'one' is different from a regular numeral. In fact, in view of its usage in (43), which gives rise to an indefinite reading, it is more like an indefinite article, as in 'a few books' in English.

There is phonological evidence to support the different usages of the two 'one's. Let's call the two usages of 'one' the numeral 'one' and the indefinite article 'one' for ease of presentation. It is possible to stress the numeral 'one', but it is not possible to stress the indefinite article 'one' (stressed items are in boldface):

(44) ngo^{5} maai^{5} -zo^{2} **jat^{1}** bun^{2} syu^{1}
I buy-ASP one CL book

(45) *ngo^{5} maai^{5}-zo^{2} **jat^{1}** di^{1} syu^{1}
I buy-ASP one CL_{pl} book^{7}

In Mandarin, 'one' *yī* interacts similarly with the plural classifier *xiē*:

(46) wǒ mǎi-le **yì** běn shū
I buy-ASP one CL book

(47) * wǒ mǎi-le **yì** xiē shū
I buy-ASP one CL_{pl} book

Assuming that the numeral 'one' is generated in the head of NumeP, like all other numerals, the question then where is the indefinite 'one' is generated.

In Zhuang, due to the complementary distribution of the numeral 'one' and the demonstrative, I assume that they are generated in the same position, namely, in the head position of the lower referential layer. In Chinese, numerals are generated in the Nume head and the demonstrative resides in SpecSP, the numeral 'one' is expected to be compatible with the demonstrative, just like languages where the indefinite article 'one' and the numeral 'one' are of different forms. This prediction is borne out.

(48) This/that one book could replace every encyclopaedia ever written.

(49) zhè (yì) běn shū (Mandarin)
this (one) CL book
'this (one) book'

(50) lei^{1} (yat^{1}) bun^{2} syu^{1} (Cantonese)
this (one) CL book
'this (one) book'

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7 ['one'-Cl-N] phrases can also be used as nominal predicates. In this usage, 'one' also can't be stressed.

(i) ngo^{5} hai^{6} jat^{1} go^{3} lou^{5} si^{1}
I BE one CL teacher
'I am a teacher.'

(ii) *ngo^{5} hai^{6} **jat^{1}** go^{3} lou^{5} si^{1}
I BE one CL teacher
Intended reading' I am a teacher.'

This suggests that the 'one' used in predicative nominal is the indefinite article 'one'.

I assume that the 'one' in (49) and (50) is the numeral 'one' because that is the position where other numerals can appear.

The puzzling fact is, even though the indefinite article 'one' is compatible with the demonstrative, some speakers find the noun phrase slightly degraded when both are present. The following example is in Mandarin:

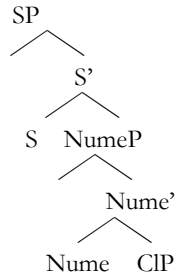
(51) ??zhè yì xiē shū (nǐ hái yào- bú- yào)? (Mandarin)
this one CL_{-pl} book you still want-not-want
'Do you still want these books?"

(52) ??lei^{1} yat^{1} di^{1} shu^{1} (lei^{5} zung^{6} jiu^{3} -m^{4} -jiu^{3} aa^{3}?) (Cantonese)
this one CL_{-pl} book you still want-not-want SFP
'Do you still want these books?'

(The 'one' in (51) and (52) is the indefinite 'one', but not the numeral 'one', because it can appear with the plural classifier.)

Assuming that the indefinite article 'one' can also co-occur with the demonstrative, it means that the demonstrative and the indefinite article 'one' are not base-generated in the same position. Without adding further structure to the nominal structure for Chinese and in view of the fact that both 'one's precede the classifier and follow the demonstrative, I will assume that the two 'one's in Chinese are both base generated in the Nume head, though they have slightly different features, which would consequently lead to their different usages.

(53)



the numeral 'one'/
the indefinte'one'

6.2 The Zhuang 'one'

There are reasons to believe that the numeral 'one', *ndeu*, in Zhuang is an indefinite article rather than a regular numeral. As presented above, the numeral 'one' in Zhuang has the following properties:

(54)
(i) It cannot co-occur with a demonstrative.
(ii) It appears in a different position than other numerals.
(iii) It cannot co-occur with other numerals.

The properties in (54i) and (54ii) suggest that the *ndeu* in Zhuang is not a real numeral. In English where the indefinite article and the numeral 'one' have two different forms, the indefinite article does not co-occur with the demonstrative or other numerals, as shown in (55) and (56). The numeral 'one', however, does co-occur with the demonstrative. This is illustrated in (57) (a repetition of example (48)):

(55) *that a book/ a that book

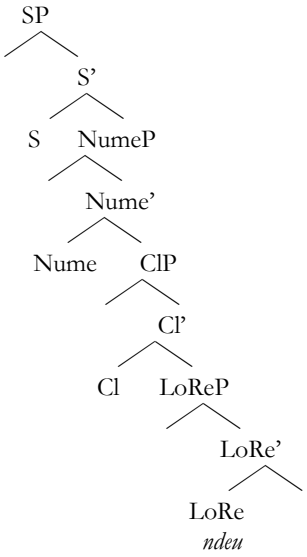
(56) *a three books/ three a books

(57) This/that one book could replace every encyclopaedia ever written.

If the numeral 'one' in Zhuang is an indefinite article, the above properties are expected. In English, the numeral 'one' as well as other numerals can co-occur with the definite article, as in *the one cat that I like*. The indefinite article can never co-occur with the definite article, **the a cat*. In Zhuang, like the indefinite article *a*, whenever *ndeu* is present, the noun phrase is indefinite. I conclude that *ndeu* in Zhuang is in fact an indefinite article.

As proposed earlier on, *ndeu* in Zhuang is base-generated in the XP head, same as the demonstrative, explaining their complementary distribution. *ndeu* is said to go back to an adjective meaning 'single' (Liang 1986, Ji 1993, Qin 1995), which would account for the singular reading it expresses.

(58)



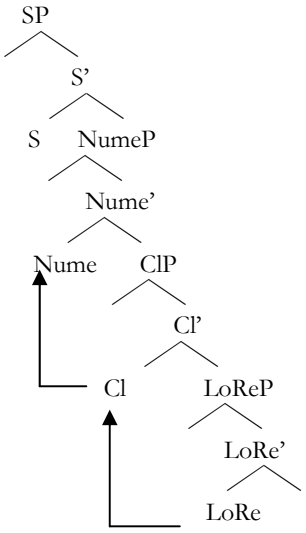
In Zhuang, *ndeu* is base-generated in the LoRe head, while other numerals are generated in the Nume head.

If numerals (other than 'one') are generated in a different position from 'one', an explanation other than that they are generated in the same position is needed to account for the ban on the co-occurrence between *ndeu* and the other numerals. I suggest that the ban on co-occurrence is due to semantic incompatibility. If *ndeu* has a singularity reading, it is expected that it does not co-occur with other numerals.

6.3 The Miao 'one'

In Miao, the numeral 'one', i^{A3}, is also in complementary distribution with the demonstrative, suggesting that it is also based generated in the LoRe head, same as the demonstrative. i^{A3}, however, appears before the classifier, indicating that it has moved up in the course of the derivation. I assume that i^{A3} moves up to the Nume head in narrow syntax. This would account for the surface position of i^{A3} and its inability to co-occur with other numerals. The movement proceeds in the following manner.

(59)



i[43] moves to the classifier head and form a complex head with the classifier. The complex head subsequently moves to the Nume head.

To conclude, the 'one's in Chinese, Zhuang and Miao, differ in the following ways:

(60)

- In Chinese, the numeral 'one' is base-generated in the Nume head.
- In Zhuang, the numeral 'one', *ndeu* , is base-generated as the head of the lower referential layer LoReP. It moves to the Nume head at LF.
- In Miao, the numeral 'one', *i*[43], is base-generated as the head of the lower referential layer LoReP, but it moves to the Nume head in narrow syntax.

7. The relationship between SP and the lower referential layer in Zhuang and Miao

In Chinese, as argued in chapter 4, the high referential layer is the Specificity Phrase and the low referential layer is the Classifier Phrase. I adopt the version of Agree as formulated in Pesetsky & Torrego (2004), which not only detaches interpretability from valuation, but also allows unvalued feature to act as probe. The S head has an interpretable but unvalued S feature, *i*S[ ]. The classifier can either come with an uninterpretable feature with a [+def] value (*u*S [+def]) or come with no feature/value (ϕ). The precise formulation of the version

of Agree I adopt is given in (61) (adopting Pesetsky & Torrego's 2004 idea of Agree in general, but with modification):

(61)
Agree and valuation:

(i) An uninterpretable or unvalued feature F (a probe) on a head H scans its c-command domain for a matching interpretable or valued feature F with which to agree.
(ii) The feature on the goal has to move to the probe to check features. The value of the probe is replaced by the value on the goal.

In my proposal, the S head always contains an interpretable but unvalued S feature, *i*S[ ]. There are two configurations in which feature checking can occur. In cases where the classifier contains an uninterpretable [+def] feature, *u*S [+def], the feature on the classifier head moves to the S head to check feature. In cases where the demonstrative contains an *u*S[+def] feature, the demonstrative moves from SpecClP to SpecSP in order to check features with the S head.

The movement of the *u*S [+def] feature on the goal is subject to locality. In particular, it cannot go across any element containing values of a similar type, i.e. values pertaining to definiteness. Following Cheng & Sybesma (1999), I assume that the numeral head is inherently indefinite. The indefiniteness is encoded in the Nume head. I represent the value as [-def]. The presence of a Nume head, overt or covert, will prevent the *u*S [+def] value on classifier from moving to the S head.

(62) The S head 'visibility' condition
(i) If the S head is specified as definite, the layer has to be made phonologically overt by filling the spec, the head or both.
(ii) If the S head is unspecified for definiteness, no phonologically overt element can appear in either SpecSP or the S head.

In what follows, I will show that Zhuang and Miao can be subsumed under the same analysis as Chinese. There is one exception. In Zhuang and Miao, there is no evidence to suggest that a definite S head requires the overt filling of the S head or SpecSP. In Chinese languages, the evidence for such a condition comes from Wenzhou, where when there is a modifier in SpecSP, there is no need to insert a dipping tone on the classifier to indicate definiteness. Such evidence is not available in Zhuang and Miao. I will simply assume that the SP layer with a definite S head does not have to be made 'visible' in Zhuang and Miao when I spell out the derivation of bare nouns, [Cl-N] phrases and [Nume-Cl-N] phrases. When the discussion comes to phrases involving the demonstrative, I will motivate why Zhuang and Miao behaves differently from Chinese with respect to the need to fill the SP layer for a definite S. In particular, I argue that the low position of the demonstrative in

Zhuang and Miao indicate that feature checking in Zhuang and Miao does not happen until LF. In the absence of feature checking (which is part of Agree), the S head remains unspecified in syntax. According to the 'visibility' condition (which operates in syntax), nothing can appear in the S head or SpecSP if the S head is not specified with respect to definiteness.

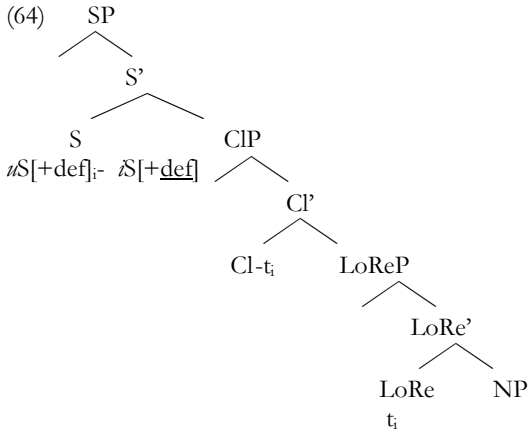
In Zhuang and Miao, definiteness or indefiniteness can be indicated by the use of the demonstrative or 'one'. Both of them are heads. Following my proposal for Chinese, I assume that a definite interpretation comes from an S[+def] feature on the S head while an indefinite reading comes from an unvalued S, S [ ]. The specification on the S head comes from the lower referential layer, the LoRe head in this case. I assume that the LoRe head can be filled with a demonstrative that has an *u*S [+def] feature or with 'one', which contains no feature/value. When the LoRe head contains a demonstrative, the S head will be specified as [+def] after agreeing with the LoRe head. The interpretation of the noun phrase is definite. When the LoRe head contains 'one', there is no Agree. The S head remains unspecified and receives an indefinite reading by a default LF rule. Since bare NPs can also be interpreted as definite or indefinite without the overt presence of the demonstrative or the numeral 'one'. I assume a covert *u*S[+def] feature and well as ϕ are also possible specification for the LoRe head. In sum, the LoRe head can have 4 different types of variations:

(63)
(i) The demonstrative (*u*S [+def])
(ii) *ndeu* 'one' (ϕ)
(iii)*u*S [+def]
(iv) ϕ

7.1 Definite and indefinite bare noun phrases in Zhuang and Miao

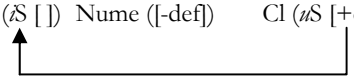
In Zhuang and Miao, when the LoRe head has a *u*S[+def] feature, the feature on the LoRe head moves to the S head to check features with the *i*S[ ] feature on the S head.

(64)



Recall that in chapter 4, the presence of a numeral, which contains a [-def] value, will block the movement of the *u*S[+def] to the S head in Chinese.

(65) S (*i*S [ ]) Nume ([-def]) Cl (*u*S [+def])

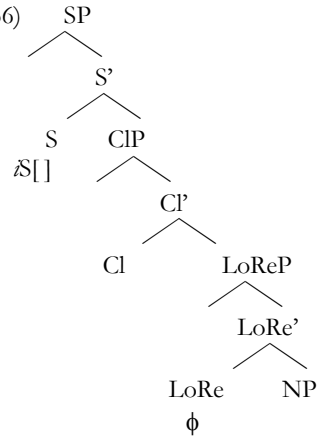


In Chinese, in order to for the *u*S[+def] feature on the classifier to move to S , there are two options. The *u*S[+def] feature on the classifier can either move in one big step, skipping the numeral head. This would violate the Head Movement Constraint (Travis 1984). Another option is to move to the numeral head first, then tag along the content in the numeral head to S. The problem is that the numeral has a [-def] value and the classifier has a [+def] value. The conflicting values that end up on the S head will lead to crash in the derivation.

In Zhuang, the classifier in (64) does not contain any definiteness value. The *u*S[+def] feature can move to S via the classifier and tag along whatever feature that is contained in the classifier head without getting contradictory specification of definiteness on the S head. In other words, the classifier in (64) will not block movement of the *u*S[+def] feature.

For indefinite bare nouns, LoRe contains no feature/value. The S head remains unspecified for definiteness and receives an indefinite interpretation from a default LF rule.

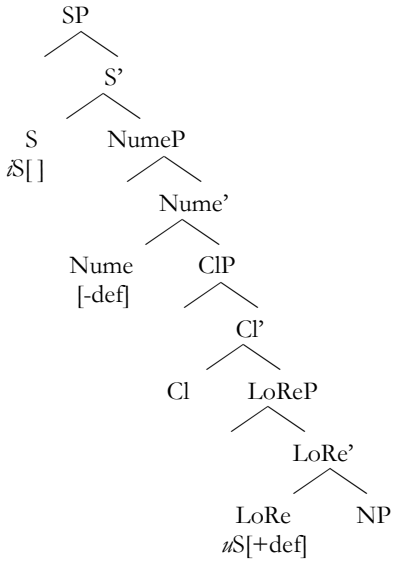
(66)



7.2 Indefinite [Cl-N] phrases and [Nume-Cl-N] phrases in Zhuang and Miao

In Zhuang (according to my informant who speaks Hechi Zhuang), [Cl-N] phrases cannot be used alone. I will thus only focus on Miao. In Miao, [Cl-N] phrases cannot be interpreted as definite. I assume that this is due to the same reason why [Cl-N] phrases in Mandarin cannot be interpreted as definite. Namely, there is a covert Numeral phrase on top of the Classifier Phrase. The numeral is inherently indefinite (Cheng & Sybesma 1999). I assume that, similar to Chinese, the numeral contains a [-def] value, contributing to its inherently indefinite nature. The [-def] value on the numeral will prevent the *n*S [+def] feature on LoRe from moving to S. See section 7.1 for the reason why the numeral (either overt or covert) can block the movement of the *n*S [+def] feature. The presence of a numeral is only compatible with a LoRe head that has no feature/value.

(67)



For the same reason, [Nume-Cl-N] phrases are always indefinite.

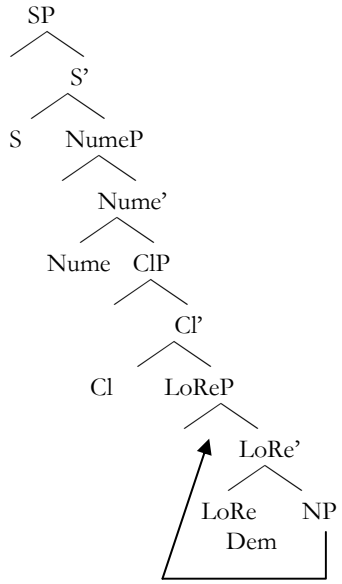
7.3 Noun phrases containing the demonstrative and the numeral 'one' in Zhuang and Miao

The general idea is that in an [Cl-N-'one'] phrase, 'one' on the LoRe head contains no feature/value. S remains unvalued and the noun phrase is interpreted as indefinite by a default LF rule. When the LoRe head contains a demonstrative (*u*S [+def]), the S head agrees with the LoRe head. The S head is specified as [+def] and the noun phrase is interpreted as definite. However, there are some complications.

(68) Nume-Cl-N-Dem

As shown in (68), whenever a demonstrative is present, it always follows the classifier-noun sequence, suggesting the movement of the NP. Since the numeral and the classifier precede the demonstrative, the NP must have moved to a position that is lower than the numeral and the classifier, but higher than the demonstrative. I suggested that the NP moves to SpecLoReP in section 5.

(69)



When LoRe is headed by 'one', Zhuang and Miao differs. In Zhuang, when LoRe is headed by *ndeu* 'one', the NP also moves to SpecLoReP, giving rise to the sequence (Nume) Cl-N-*ndeu*.

In Miao, when LoRe is head by i^{43} 'one', i^{43} moves to the Nume head, via the classifier and taking the classifier along, before Spell-Out. The resulting sequence is i^{43}-Cl-N. Since the numeral 'one' i^{43} moves to the Nume head in syntax, whether the NP has moved to SpecLoReP or not does not result in a different ordering in surface structure. I would assume that the NP in Miao also moves to SpecLoReP when LoRe is headed by 'one' for (i) maintaining the similarities between Zhuang and Miao, and (ii) avoiding the unexplained asymmetry between having a LoRe headed by Dem and a LoRe headed by 'one' in Miao with respect to the NP movement in question.

In Chinese, the demonstrative, which is generated in SpecClP, has to move up to SpecSP to check features with S. In Zhuang and Miao, the demonstrative always follows the numeral, which indicates that the demonstrative does not move up to the SP layer on the surface.

Two questions that are left unanswered are:

(70)
(a) Why is it the case that in Zhuang/Miao (unlike Chinese), the demonstrative does not have to move up to S to check feature?

(b) What triggers the NP movement to SpecLoReP?

At this point, I don't have insightful answers to these two questions. What I can show is that these are phenomena that are shared by other languages.

With respect to (70a), Brugè (2002) proposes that the demonstrative is generated in the specifier position of a lower functional projection FP, which is very close to the lexical core. The demonstrative must check its [+ref] and [+deictic] feature in SpecDP. However, languages do have a choice as to when to check the feature. In fact, languages can be divided into three groups in terms of the 'timing' for checking:

Gp1 (feature checking happens optionally before Spell-Out but obligatory at LF): Languages where the demonstrative can be realized in pre-nominal or post-nominal positions: Catalan, Bosnian, Russian, Romanian and Modern Greek.

Gp2: (feature checking happens before Spell-Out): Languages where the demonstrative has to appear in pre-nominal position: Italian, French, German and Albanian.

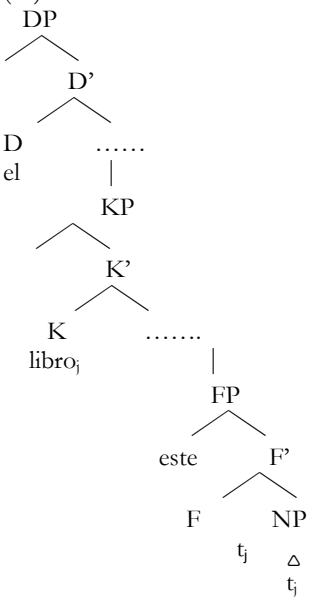
Gp3: (feature checking happens at LF): Languages where the demonstrative has to appear post-nominally: Hebrew, Irish.

Brugè proposes that the parameterization of the 'timing' of checking can be articulated in terms of weak/strong properties of the [+ref] features. Strong features have to be checked before LF; weak feature can be checked at LF.

In view of my proposal, the differences between the behavior of the demonstrative in Chinese on the one hand and the demonstrative in Zhuang and Miao on the other can also be re-stated in the following terms. In Chinese, feature checking has to take place prior Spell-Out. In Zhuang and Miao, feature checking can 'procrastinate' till LF. If this is the case, it would also explain why there is no evidence that the SP layer has to be overtly filled for definite noun phrases. Since the 'visibility' condition only applies in syntax, it means that the SP layer only has to be filled overtly if the S head is specified as definite in syntax. Since feature checking takes place at LF in Zhuang and Miao, the S head will remain unspecified in syntax. For an unspecified S head, the 'visibility' condition states that nothing can appear either in S or SpecSP.

With respect to (70b), this is a question that is shared by all languages that allow post-nominal demonstratives. Assuming that the demonstrative is in the specifier position of a functional position (FP) that dominates the NP (Brugè 2002), the noun will have to move to some intermediate position between DP and FP, call it KP, in order to derive the noun-demonstrative ordering. Take the derivation of *el libro este* (lit. 'the this book' in Spanish) as proposed in Brugè (2002):

(71)



In Spanish, the noun moves to K. In Zhuang and Miao, the NP moves to SpecLoReP. In Spanish, the noun has to move up to a projection that is distinct from where the demonstrative is generated because it is possible to have adjectives situated between the noun and the demonstrative. Adjectives in Spanish are assumed to be specifiers in Brugè (2002).

(72) el libro viejo este
The book old this

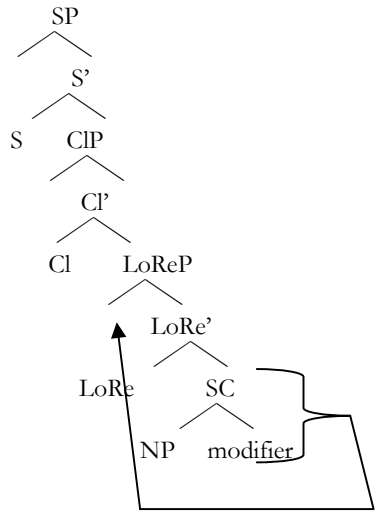
In fact, in Zhuang and Miao, it is also possible to have adjectives (or modifiers in general) between the noun and the demonstrative (or 'one'). This is illustrated below:

(73) duz mahenj haenx (Zhuang)
CL dog yellow that
'that/the yellow dog'

(74) to^{21} tl̥ ei^{55} tl̥o^{43} i^{44} (Miao)
CL dog black that
'that/the black dog'

The intercepting adjectives in (73 and (74) seem to suggest that the NP is moved to a specifier position higher than the projection (i.e. LoReP) that is headed by the demonstrative. I would like to suggest that this is only apparent. The idea that the NP moves to SpecLoReP can still be maintained if adjectives (or modifiers in general) in Zhuang and Miao are predicates of small clauses, as Simpson (2005) suggests for Thai/Nung. (73) and (74) can be derived in the following manner. The whole small clause moves to SpecLoReP (Sybesma & Sio 2005):

(75)



One piece of evidence to suggest that modifiers in Zhuang are predicates is that in Zhuang, speakers dislike strongly the multiple modifiers, as Simpson (2005) observes in Thai/Nung. In Zhuang, modifiers are strictly post-nominal and unlike Chinese, modifiers do not come with a marker. When multiple modifiers have to be used, they prefer to use conjunction or to express them in different sentences.

Zhuang:

(76) ??duz loengz heu laux biz haenx
CL dragon green big fat that

(77) duz loengz heu yux laux yux biz haenx
CL dragon green and big and fat that

Note that the marginality of the sentence is not due to some kind of ordering restriction on the adjectives, changing the ordering of adjectives does not improve the phrase. If adjectives (or modifiers) in general in Zhuang are like Chinese in the sense that they are

specifiers or adjuncts, the structure should allow multiple modifiers. Since this is not possible in Zhuang, it suggests that modifiers in Zhuang are of a different status. In view of the fact they are located between the noun and the demonstrative and the proposal sketched above in which the NP moves to SpecLoReP, having the modifiers generated as predicates of a small clause with the NP as the subject would give not only the right ordering, it would also account for the interesting behaviour of Zhuang modifiers.

Modification data in Miao are more complicated than Zhuang. In addition to post-nominal modifiers with no marker, as in (74), Miao also exhibits at least two other types of modification patterns. Firstly, at least according to my informant, both pre- and post-nominal modifiers exist. Pre-nominal modifiers are separated from the noun by the marker and post-nominal modifiers are separated from the noun by the marker *kə*[44].[8]

(78) tɕau[31] ʑen[55] – tʂau[24] ni to[21] ɕo[31] – sen[41] i[44]
wear glasses MARKER CL student that
'the student who wears glasses'

(79) to[21] ɕo[31] – sen[41] kə[44] tɕau[31] ʑen[55] – tʂau[2] i[44]
CL student MARKER wear glasses that
'the student who wears glasses'

Cao (2001) gives examples of noun phrases where more than one modifier is modifying a noun phrase:

(80) xangx –denx dod lol dol dul det gheid niul id,
last week cut obtain some wood tree pine fresh that
xangf nongd ngas yangx
time this dry SFP
'The fresh pine tree wood that was cut last week is now dry.'

Due to the complication in the modification patterns in Miao, I can not draw evidence to support the predicative nature of Miao modifiers. I will simply assume post-nominal Miao modifiers are also predicates, on a par with Zhuang.

8. Conclusion

In this chapter, I applied the proposal for Chinese (argued for in chapter 3 and chapter 4) to Zhuang and Miao. In terms of the implementation of the proposal, there are two differences between Chinese on the one hand, and Zhuang and Miao on the other. Firstly, in Chinese, the lower referential layer is merged with the Classifier Phrase. In Zhuang and Miao, the lower referential layer is separated from the Classifier Phrase. The lower

[8] It is unclear to me whether the marker in Miao is similar to the marker element in Chinese.

referential layer has its own projection. Secondly, in Chinese, feature checking occurs in the syntax, and as a result the demonstratives appear high. In Zhuang and Miao, feature checking takes place at LF. This accounts for the low occurrence of the demonstratives as well as why the SP layer with a definite S head does not need to be made phonologically overt in Zhuang and Miao.

Chapter 7 Conclusions

In this final chapter, I will summarize the main empirical and theoretical conclusions of this dissertation.

The main goal of this dissertation is to explore the structure of Chinese noun phrases by using data of modification. The use of modification data is motivated by the observation that by altering the position of the modifiers, the referential properties of noun phrases also alter (Huang 1982, Zhang 2004). This provides a way of assessing where referential properties are encoded in the Chinese noun phrase, something that is difficult to see by using plain unmodified nouns. The empirical conclusion is that whenever a modifier appears to the left of the classifier (or numeral when present), the noun phrase is obligatorily specific. When a modifier appears between the classifier and the noun, there is no change in referential properties. It is interpreted like an unmodified noun referentially. To capture the contrast, I propose that there is a Specificity Phrase (SP) on top of the Numeral Phrase in Chinese. SP is only projected for specific noun phrases. This would explain why the presence of modifiers to the left of the classifier (or the numeral) entails a specific interpretation.

Another empirical conclusion with respect to the change in referentiality is that in some cases, having a modifier to the left of the classifier not only leads to a specific reading, the resulting noun phrase is also obligatorily definite. This happens to [bare modifier-Cl-N] phrases, which are only possible in Cantonese, Wenzhou but not in Mandarin. The generalization is that only in languages that allow [Cl-N] phrases to be interpreted as definite allow [bare modifier-Cl-N] phrases. This captures firstly, why [bare modifier-Cl-N] phrases are not possible in Mandarin, where [Cl-N] phrases are obligatorily indefinite, and secondly, why [bare modifier-Cl-N] phrases are always definite, namely, the definite reading comes from the definite modified [Cl-N] phrase. In Wenzhou, [Cl-N] phrases can only be interpreted as definite if the tone of the classifier changes into a dipping tone. Interestingly, in a [bare modifier-Cl-N] phrase, the phrase can be interpreted as definite without changing the tone of the classifier. Assuming that the bare modifier is in SpecSP and the dipping tone is in the S head, descriptively, it seems to suggest that whenever SpecSP is filled, the S head does not need to be filled with a dipping tone. I state this observation as a generalization called the S head 'visibility' condition:

(1)
The S head 'visibility' condition
(i) If the S head is specified as definite, the layer has to be made phonologically overt by filling the spec, the head or both.
(ii) If the S head is not specified for definiteness, no phonologically overt element can appear in either SpecSP or the S head.

Across Chinese languages, the definiteness interpretation of some noun phrase types (e.g. [Cl-N] phrases, bare nouns) varies. What can be definite in one Chinese language might be obligatorily indefinite in another. Furthermore, [Nume-Cl-N] phrases are obligatorily indefinite in Chinese. Assuming that definiteness is interpreted in the S head, it means that the definiteness specification of the S head is not totally free and is dependent on other factors. To implement this intuition, I adopt a view of the noun phrase in which there is a two-layer split in the encoding of referential properties (Sczabolcsi 1994, Campbell 1996, Hoekstra & Hyams 1996, Brugè 2002, Giusti 2002, among others). The higher layer is the SP layer and the lower layer is the Classifier Phrase. The two layers interact via Agree (Pesetsky & Torrego's 2004 version, with slight modification). The S head (the higher referential head) comes with an *i*S [ ] feature (interpretable and unvalued). The classifier (the lower referential head) comes in two forms. It can either be endowed with an *u*S [+def] feature (uninterpretable and valued) or it can contain no feature/value. Agree takes place when the classifier is definite.

(2) The relationship between the S head and the classifier head is illustrated as follows:

(a)

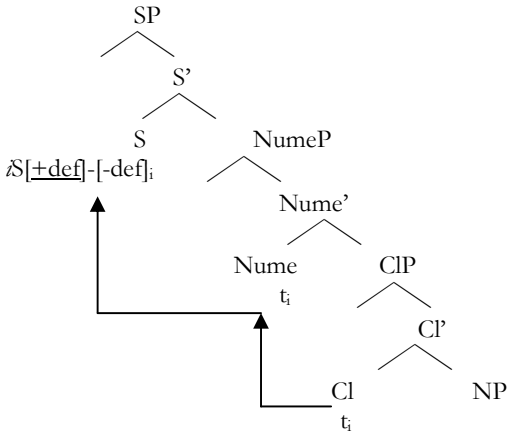
…S…….Cl	Agree	…..S……Cl
*i*S [] *u*S [+def]	⟷	*i*S [+<u>def</u>] *u*S [+def]

(b)

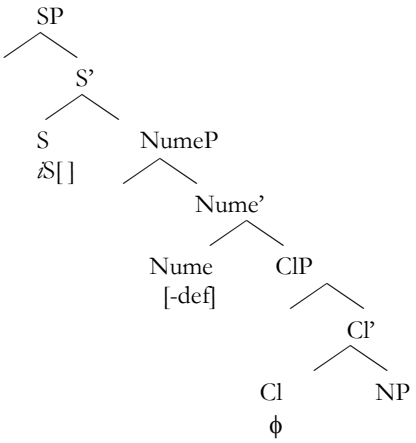
…S…….Cl	…..S……Cl
*i*S [ ] ϕ	*i*S [ ] ϕ

In (2a), the S head agrees with the definite classifier. The *u*S [+def] feature on the definite classifier moves to the S head to check features. After Agree, the S head is specified as [+def] and the noun phrase is interpreted as definite. In (2b), there is no Agree. The S head remains unvalued. The noun phrase is interpreted as indefinite by a default LF rule. I make use of the feature movement of the *u*S [+def] feature to derive two things. The first consequence is that it provides a way to account for why [Nume-Cl-N] phrases are always indefinite. For [Nume-Cl-N] phrases, I assume that numerals always come with a [-def] value (à la Cheng & Sybesma 1999, 2005). Under such a setting, the [-def] value on the numeral will make the movement of the *u*S [+def] feature on the classifier to S impossible. Namely, the classifier needs to move via the numeral in order to get to S, in avoidance of violating the Head Movement Constraint (Travis 1984). Moving via the numeral means that the classifier has to tag along the content of the numeral. The S head will end up having both [+def] and [-def] values. The conflicting values will make the derivation crash. Consequently, numerals are only compatible with a classifier that has no feature/value.

(3) *



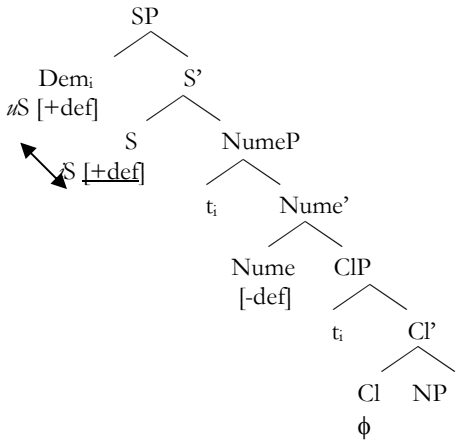
(4)



The second consequence is that assuming feature checking involves feature movement provides a way to drive the movement of the demonstratives. Theories that adopt a two-layer split nominal structure are often motivated by the low and high occurrence of the demonstratives (Brugè 2002, among others). According to these theories, the demonstratives originate low and move to a higher position in the course of the derivation. Assuming that there is also a two-layer split in the Chinese nominal, it is likely that Chinese demonstratives also originate low. In particular, I assume that Chinese demonstratives are base generated in SpecClP. Demonstratives always appear high in Chinese (to the left of the numeral when present). I assume that they are in SpecSP in the surface. The idea is that it is feature checking that drives the

demonstratives to move from SpecClP to SpecSP. Note that one more assumption is needed here. Since feature movement does not necessarily involve category movement, I need to assume that the *u*S [+def] feature on the demonstrative is inside the lexical item and cannot be taken out of the demonstrative and move on its own. This contrasts with the *u*S [+def] feature on the classifier, which can move without dragging the category along. I suggest that the difference lies in the observation that the demonstratives are always definite, though classifiers are not.

(5)

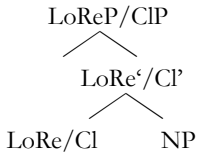


The presence of a demonstrative is only compatible with a classifier that has no feature/value because otherwise the *u*S [+def] feature on the classifier will be left unchecked. The demonstrative in SpecClP is always a closer goal to the probe S than the classifier head.

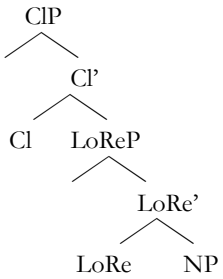
Modifiers in Chinese come in two types. I called them bare modifiers and marker modifiers (when they come with a marker element). The two types of modifiers behave differently with respect to their distribution and interpretation. I account for the differences by proposing that they are merged into the structure differently. Marker modifiers are adjuncts (à la Rubin 2003) while bare modifiers are specifiers. Specifiers and adjuncts are distinguished in my proposal in that specifiers need to be licensed by the relating heads, but adjunct don't. In the SP layer, SpecSP can only be licensed by an S head with a [+def] value but adjuncts can adjoin to the SP layer without a [+def] S, as in [marker modifier-Nume-Cl-N] phrases. With respect to modifiers that appear between the classifier and the noun, bare modifiers are semantically selected by the head in the sense that the bare modifiers in SpecNPs have to be non-deictic and be able to form a culturally recognized group with the noun. Marker modifiers are not subject to such conditions.

In non-Chinese languages such as Zhuang and Miao, the same theory of the encoding of referential properties I proposed for Chinese can also apply. There are, however, two differences. The first difference is that in Zhuang and Miao, the lower referential layer (abbreviated as LoReP) is split from the Classifier Phrase:

(6) Chinese



(7) Zhuang/Miao



The second difference is that feature checking takes place at LF in Zhuang and Miao, this would explain firstly the low occurrence of the demonstratives and secondly, why there is no evidence that the SP layer has to be made 'visible' for definite noun phrases in Zhuang and Miao. If feature checking takes places at LF, the S head will never be specified as definite in the syntax in Zhuang and Miao, and as a result, according to the S head 'visibility' condition (which operates in syntax), nothing overt can appear either in SpecSP or the S head.

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Samenvatting in het Nederlands

Deze dissertatie beoogt de structuur van de naamwoordelijke constituent (noun phrase, NP) in het Chinees te verkennen. De structuur wordt in kaart gebracht met behulp van NP met daarin een bepaling, waarbij we uitgaan van een eerdere waarneming dat door het variëren van de plaats van een bepaling, de referentiële eigenschappen van NP's veranderen (Huang 1982, Zhang 2004). Daardoor is het mogelijk vast te stellen in welke positie binnen de Chinese NP de referentiële eigenschappen gecodeerd worden, iets wat met eenvoudige naamwoorden moeilijk aantoonbaar is. De empirische conclusie is dat wanneer een bepaling links van de classifier (of telwoord) staat, de interpretatie van de NP verplicht specifiek is. Wanneer er echter een bepaling tussen de classifier en het kernnaamwoord (hoofd) staat, heeft dit geen invloed op de referentiële eigenschappen van de constituent. Om dit verschil te verantwoorden, wordt een extra structuurlaag voorgesteld, in het Chinees boven de telwoordconstituent (Numeral Phrase), die zorgt voor de specifieke referentie: de "Specificity Phrase" (SP). We vinden de SP alleen in specifieke NP's. Ervan uitgaande dat de links-perifere bepalingen in de specifier van de SP staan (zoals we beargumenteren), is het duidelijk waarom NP's met een links-perifere bepaling altijd specifiek zijn.

Verder kan met betrekking tot de referentiële eigenschappen van NP's geconstateerd worden dat constituenten met een bepaling links van de classifier niet alleen als specifiek maar in sommige gevallen ook als bepaald worden geïnterpreteerd. Dit geldt voor de [bare modifier-Cl-N] constituenten, die wel in het Kantonees en Wenzhou voorkomen, maar niet in het Mandarijn. We stellen vast dat alleen de talen die over een [Cl-N] constituent met definiete interpretatie beschikken, ook de [bare modifier-Cl-N] constituent toelaten. Dat kan de volgende problemen oplossen. Ten eerste, waarom we [bare modifier-Cl-N] constituenten niet aantreffen in het Mandarijn, waar de [Cl-N] constituent verplicht onbepaald is. En ten tweede, waarom de [bare modifier-Cl-N] constituent altijd bepaald is. De interpretatie als bepaald komt voort uit de bepaalde [Cl-N] constituent. Wenzhou [Cl-N] constituenten worden alleen als bepaald geïnterpreteerd, wanneer de classifier een dalende toon krijgt, maar e [bare modifier-Cl-N] constituent wordt ook zonder de toon verandering van de classifier als bepaald geïnterpreteerd. Als een eenvoudige bepaling (bare modifier) in SpecSP is geplaatst, met de dalende toon in het S hoofd, lijkt het erop, puur descriptief, dat het S hoofd geen dalende toon hoeft te dragen. Vanuit deze waarneming komt de volgende regel voort, de "zichtbaarheidvoorwaarde van het S hoofd" (S head "visibility" condition):

(1)
Voorwaarde (S head 'visibility' condition)

(i) Wanneer het S hoofd bepaald is, moet de positie fonologisch zichtbaar gemaakt worden door het hoofd of de specifier, of beide, te vullen.

(ii) Wanneer het hoofd niet bepaald is, kan geen fonologisch zichtbaar element verschijnen in SpecSP of in S hoofd.

De interpretatie van sommige soorten NP's verschilt ([Cl-N] of eenvoudig naamwoorden) in verschillende Chinese talen. Wat in één Chinese taal bepaald is kan in een andere verplicht onbepaald zijn. Omdat dat bepaaldheid in het S hoofd geëncodeerd wordt, is de toekenning van de bepaaldheid door het S hoofd niet vrij, maar afhankelijk van andere factoren. Wij delen de visie dat er in de NP twee lagen zijn die de referentiele eigenschappen coderen (Sczabolcsi 1994, Campbell 1996, Hoekstra & Hyams 1996, Brugè 2002, Giusti 2002, et al). Wij stellen voor de hogere laag te associëren met de SP, de lagere met de classifer (Classifier Phrase, ClP). De lagen zijn aan elkaar gerelateerd via Agree (Pesetsky & Torrego's 2004 versie, met een kleine aanpassing). Het S hoofd (het hogere referentiële hoofd) is voorzien van het kenmerk *i*S [ ] (interpretabel, zonder waarde). De classifier (het lagere referentiële hoofd) neemt twee vormen aan. Het is voorzien van het kenmerk *u*S [+def] (interpretabel, met waarde) of het bevat er geen. De Agree operatie vindt plaats waneer de classifier bepaald is.

(2) De verhouding tussen het S hoofd en het classifierhoofd wordt schematisch asl volgt weergegeven:

(a)

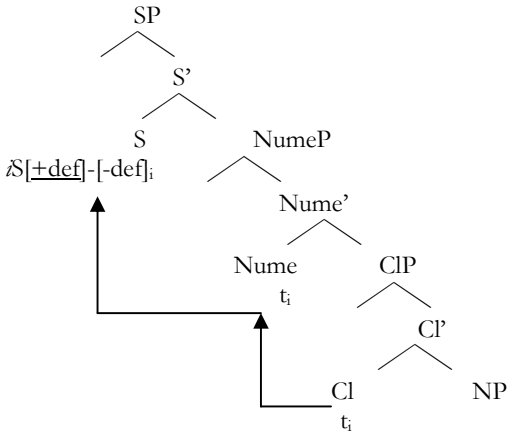
	Agree	
…S…….Cl	⟷	…..S……Cl
*i*S [ ] *u*S [+def]		*i*S [+<u>def</u>] *u*S [+def]

(b)

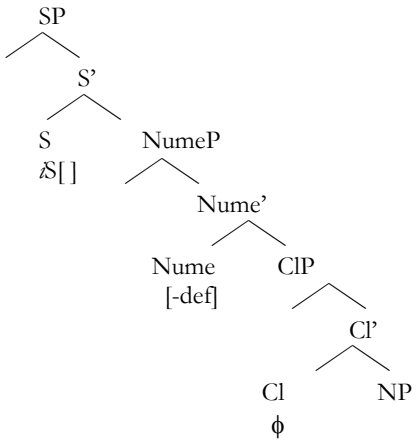
…S……..Cl		…..S……Cl
*i*S [ ] ϕ		*i*S [ ] ϕ

Het S hoofd in (2a) stemt overeen met de classifier die bepaald is. *u*S [+def] van de bepaalde classifier kan naar het S hoofd om de aldaar aanwezige kenmerken te checken. Na Agree krijgt het S hoofd het kenmerk [+def] en wordt dus als bepaald geïnterpreteerd. In (2b) vindt geen Agree plaats. Daarom blijft het S hoofd zonder gespecificeerde waarde ([ ]). De naamwoordelijke constituent wordt geïnterpreteerd als onbepaald door een standaard LF regel. De verplaatsing van het kenmerk *u*S [+def] verduidelijkt waarom [Nume-Cl-N] constituenten altijd onbepaald zijn. Telwoorden (Nume) dragen altijd een [-def] waarde (à la Cheng & Sybesma 1999, 2005). De [-def] waarde van het telwoord maakt het onmogelijk voor het kenmerk *u*S [+def] van de classifier naar S te gaan. De classifier moet langs het telwoord, om bij S uit te komen, om de Head Movement Constraint (Travis 1984) niet te overtreden. Door de verplaatsing langs het telwoord krijgt het S hoofd uiteindelijk beide waarden, [+def] en [-def]. De waarden zijn in tegenstelling, hetgeen leidt tot ongramticaliteit. Daarom komen telwoorden alleen samen voor met classifiers zonder waarde/kenmerk.

(3) *



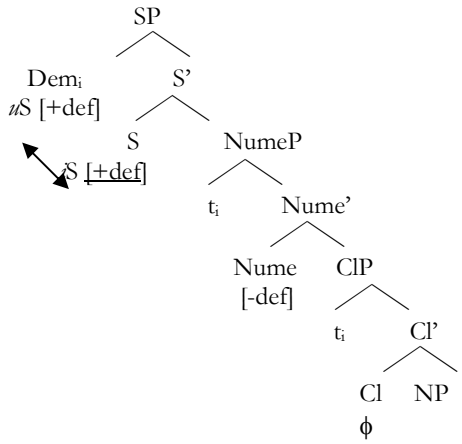
(4)



Het idee dat twee lagen binnen de NP verantwoordelijk zijn voor de referentiële eigenschappen van de NP geeft ons ook een nieuwe kijk op de eigenschappen van demonstrativa in het Chinees. De theorieën die een structuur met twee lagen hanteren, zijn vaak gemotiveerd door het gedrag van de aanwijzende voornaamwoorden die zowel laag als hoog in de structuur voorkomen (Brugè 2002, et al). Als een dergelijke structuur ook in de Chinese NP bestaat, is het mogelijk, of zelfs waarschijnlijk, dat het Chinese aanwijzende voornaamwoord ook onderaan in de structuur gegenereerd wordt, mogelijk SpecClP. De aanwijzende voornaamwoorden worden altijd hoog aangetroffen in het Chinees (links van de telwoorden, wanneer aanwezig). Daarom veronderstellen we dat ze zich in de oppervlakte structuur in SpecSP bevinden. Het checken van kenmerken is de drijvende

kracht die de aanwijzende voornaamwoorden vanuit SpecClP naar SpecSP haalt. Echter een tweede aanname is nodig; de beweging van de kenmerken houdt niet noodzakelijk ook de beweging van de categorie in. We nemen aan dat *u*S [+def] op het aanwijzende voornaamwoord een deel van de lexicale inhoud uitmaakt. Daarom is het onlosmakelijk en niet in staat om zelfstandig te bewegen. Dat in tegenstelling met *u*S [+def] op de classifier, die wel kan bewegen zonder haar categorie mee te slepen. Daaruit volgt, dat de aanwijzende voornaamwoorden altijd bepaald zijn, en classifiers niet.

(5)



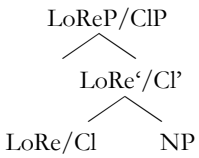
Een aanwijzend voornaamwoord combineert alleen met een classifier die geen kenmerk/waarde heeft, omdat alleen zo *u*S [+def] op de classifier ongecheckt kan blijven. Het aanwijzende voornaamwoord in SpecClP is altijd wat dichter bij als doel voor een proef-S dan het classifier hoofd.

Er zijn twee soorten bepalingen in het Chinees te onderscheiden: "kale bepalingen" (bare modifiers) en "gemarkeerde bepalingen" (marker modifiers), respectievelijk zonder en met arkeerder (zoals *ge* in het Kantonees, *de* in het Mandarijn). Ze gedragen zich verschillend, qua distributie en invloed op de interprtatie van de NP als geheel. Het verschil in gedrag wordt verklaard door aan te nemen dat ze verschillen in hoe ze in de structuur invoegen. Gemarkeerde bepalingen zijn bijstellingen (adjuncts, à la Rubin 2004), terwijl de kale bepalingen "specifiers" zijn. De kale bepalingen moeten worden gelicenst door het bijbehorende hoofd, terwijl dit niet geldt voor adjuncten. SpecSP in de SP laag wordt gelicenst door een S hoofd, met [+def] waarde, maar de bijstellingen voegen zich in de SP laag zonder [+def] S, als in [marker modifier-Nume-Cl-N] constituenten. De bepalingen die zich tussen de classifier en het naamwoord bevinden, de kale, worden semantisch geselecteerd door het hoofd. Ze zijn non-deiktisch, en vormen een cultureel erkend geheel

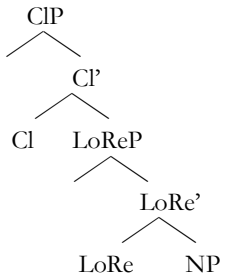
met het naamwoord. De gemarkeerde bepalingen hoeven niet aan deze voorwaarde te voldoen.

De voorgestelde analyse van het coderen van referentiële eigenschappen in het Chinees geldt ook voor niet-Chinese talen zoals Zhuang en Miao. Er zijn, niettemin, verschillen. Het eerste verschil bestaat erin dat in Zhuang en Miao de lagere referentiële laag in (lower referential layer, LoReP) is gescheiden van de ClP.

(6) Chinees



(7) Zhuang/Miao (non-Chinees)



Het tweede verschil is dat in het Zhuang en het Miao het checken van kenmerken plaats vindt op LF niveau. Dat verklaart waarom de aanwijzende voornaamwoorden laag aangetroffen worden, en ook waarom er geen bewijs is dat de SP laag in het Zhuang en het Miao "zichtbaar" moet zijn voor de NP's die bepaald zijn. Als het checken van de kenmerken plaats vindt op LF, dan kan het S hoofd nooit gespecificeerd worden als bepaald. Verder als gevolg van de genoemde eigenschap, en vanwege de "zichtbaarheidvoorwaarde" van het S hoofd, mag er in deze talen niets verschijnen in SpecSP of in het S hoofd.

Curriculum Vitae

Joanna Ut-seong Sio was born in Guangdong China on November 17th, 1976. She obtained her BA in English in the Chinese University of Hong Kong in 1999. In 1999, she went to Canada to study linguistics by enrolling herself in the linguistics MA program in the University of British Columbia in Vancouver. In 2001, she moved to Holland to study her PhD in the Leiden University Centre for Linguistics (LUCL).