Modal Particles and Their Projections: A Minimalist Approach*

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This paper discusses the syntactic status, distribution and constraints on generation of modal particles in the framework of generative grammar. After a summary of the syntactic properties of modal particles, we argue that modal particles vary from each other in terms of syntactic distribution, but they have similar syntactic functions and base-generated positions. In the syntactic structure, modal particles of the same type occupy the same position, whereas modal particles of different types occupy different positions, which is due to the fact that they occupy different positions in the syntactic hierarchy. It is argued that declarative sentences are the basis on which other types of sentences are generated. As a result, declarative modal particles can co-occur with interrogative, imperative, and exclamatory modal particles. Based on the syntactic hierarchy, the Constraints on Modal Particle Merger/Co-occurrence, the Principle of Locality, the Principle of Prominence, the Hierarchy of Modal Types, the Hierarchy of Abstractness, and the Hierarchy of Subjectivity are proposed to account for the possible co-occurrences of modal particles, tendency to be used as topic and focus markers, linear order of modal particles, and correlation between the hierarchy of modal types, the hierarchy of abstractness, and the hierarchy of subjectivity as well as non-occurrence of interrogative, imperative, and exclamatory modal particles in embedded clauses. It is also argued that there is correlation between the degree of grammaticalization of modal particles and the complexity of sentence structure. The conclusion has been testified cross-linguistically, which is in the spirit of universal grammar.

Keywords: mood; modal particle; modal feature; syntactic property; syntactic position

* I would like to thank three anonymous reviewers for helpful comments. All errors are mine.

1. Introduction

In the last decades, the linguistic studies on Chinese have led to the identification of a small class of words, which are generally referred to as modal particles.[1] In the framework of formal linguistics, modal particles are analyzed as C, and they play an important role in syntax. Similar to other functional categories, they can constitute a CP and project as a functional phrase (FP) (Lee 1986, Cheng 1991, Li 1992, Tang 2000, 2003, 2005, 2010, Xu 2005, Hu & Shi 2006, He 2007, Yang 2011a, 2011b). Mood of a sentence is determined by the use of modal particles. That is, the type of each clause is marked by modal particles because the specifier has the function to determine the type of a sentence (cf. Cheng 1991, Chomsky 1995). According to Cheng (1991), Tang (1989), Tang (2010), and Yang (2011a, 2011b), Chinese modal particles, such as *ne* and *ma*, are interrogative specifiers. They cannot occur in embedded clauses. This suggests that Chinese is different from English, Japanese, and Navajo, in which interrogative auxiliaries are used.[2] Why do the Chinese modal particles *ne* and *ma* cannot occur in embedded clauses? What constraints are they subject to? The answer cannot be found in current literature. Furthermore, are the constraints linguistically universal? Are they applicable to all interrogative particles or other types of modal particles? How are interrogative, declarative, exclamatory, and imperative modal particles distributed? What constraints are they subject to? How are they generated? Up to now, these questions have never been probed into. In view of these, this paper attempts to analyze the syntactic status of modal particles and their mechanism of generation and to testify the conclusion in different languages.

The paper is organized as follows. Section 2 addresses the general

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1) It is generally assume that Chinese particles fall into three classes: 1) particles performing the grammatical functions of structure, such as *de* (的), *de* (地), *de* (得); 2) particles performing the grammatical functions of tense, such as *le*, *zhe*, *guo*; 3) particles performing the grammatical functions of mood, viz. modal particles, such as *ne*, *ma*, *ba*, *a* (cf. Qi *et al*. 1993: 252).

2) In Japanese and Navajo, interrogative modal particles can occur in root clauses (viz. matrix clauses) and embedded clauses (Cheng 1991). In English, the conjunction *whether* which serves the function of C can occur in embedded clauses only. In contrast, Chinese modal particles can occur in root clauses only (Tang 1989). This is true of Cantonese (Tang 2010).

properties of modal particles. Section 3 addresses the positions of modal particles in the syntactic hierarchy. Section 4 addresses agreement between modal particles and sentence types. Section 5 addresses the scope of modal particles. And Section 6 is a conclusion.

2. The General Properties of Modal Particles

A Chinese particle in all aspects is an uninflected grammatical word used to change the relation of different parts of a sentence to one another. In Chinese, many of these particles are used at the end of a sentence (and therefore are called sentence-final particles), but there are many that are used within a sentence, and changing their positions can dramatically change the meaning of the sentence. Modal particles are used to convey the mood of the sentence as determined by the speaker / writer depends highly on the use of modal particles because Chinese is a tonal language, expressing emotion by changing the pitch of the sentence or phrase would make the meaning of the sentence different. Therefore, many particles have arisen that can be added to the end of the sentence to express emotion. One important function of modal particles is to signify the completion of a sentence so as to mark the boundary between sentences. As clitical morphemes, they cannot be used singly. They represent grammatical function instead of lexical meaning and are pronounced unstressed syllables.

As a type of words without independent lexical or specific meaning, modal particles are mainly used to add extra meaning to other words, phrases, and sentences, or to express grammatical, logical, or emotional relations. Since the lexical meaning of modal particles is in accordance with their grammatical, logical, or emotional meaning, their range is wide, and their lexical meaning is constrained by their syntactic functions. As an integral part of the sentential structure, modal particles form a fixed structural whole to indicate various affective and commentary meanings. They not only add to the complexity of the mood and the variety of the affective meaning, but also reinforce the mood and highlight the main idea (cf. Zhou 2008).

Modal particles are not involved in the grammatical structure of the sentence in Chinese. They are mainly used as discourse markers. Their characteristics are shown as follows: 1) they are not a necessary

part of the grammatical structure, i.e. their absence or presence has no influence upon the grammaticality of the structure; 2) they have no real sense, i.e. the proposition of the grammatical expression remains the same with or without them; 3) they may influence the force of a sentence.

In general, modal particles usually express the speaker's subjective point of view with respect to what he or she is saying. They have no lexical meaning in a traditional sense (cf. Molnár 2002: 15). They take scope over the whole proposition (and not over single constituents) or scope even out of the IP, thus displaying strong links to the left clausal periphery. This connection with the CP is testified by two other properties, viz. their dependency on the type of clause they occur in and the illocutionary effects they can have. Each of them can only occur in certain types of clauses. Syntactically, there is a close link between modal particles and the left periphery, since clause typing is generally assumed to take place in the CP-layer (cf. Cognilio 2008). Modal particles can strengthen or modify the illocutionary force of a sentence (cf. Thurmair 1989: 2).

We argue that, in accordance with the types of sentences, Chinese modal particles fall into four classes, i.e. declarative, interrogative, imperative, and exclamatory. Declarative mood is marked by adding the modal particles *le*, *de*, *ne*, *bale*, *ma* (嘛), *a*, etc. to the end of the sentence. Among these particles, *le*, used at the end of a sentence or a pause in the middle of a sentence, indicates a change or a new situation: 1) it indicates that something has happened or is about to happen; 2) it indicates a certain situation under certain conditions; 3) it indicates a change in one's understanding, idea, view, or action. *De* indicates certainty. It declares the truth affirmatively. *Ne* reinforces the assertion or play up the effect of exaggeration, or indicates the continuation of an action or situation. It stresses that something is unusual. Besides, it can be used at the end of a declarative sentence to indicate that an action or condition is still continuing. *Ba* indicates consent, approval, or doubt without seeking an answer. It indicates estimation or some uncertainty. *Bale* denotes merely or nothing else. *Ma* indicates that something speaks for itself. And *a* has a reminding flavor. It may also represent urgency or exhortation. Declarative mood can also be marked by means of null markers. Modal particles are placed in the sentence-final position to express mood.

(1) a. Zhangsan xieguo jipian duanpianxiaoshuo le.
Zhangsan write-PST[3] several-CL short-stories LE
Zhangsan has written several short stories.

b. Zhangsan xieguo jipian duanpianxiaoshuo de.
Zhangsan write-PST several-CL short-stories DE

c. Zhangsan xieguo jipian duanpianxiaoshuo ne.
Zhangsan write-PST several-CL short-stories NE

d. Zhangsan xieguo jipian duanpianxiaoshuo bale.
Zhangsan write-PST several-CL short-stories BALE

e. Zhangsan xieguo jipian duanpianxiaoshuo ma.
Zhangsan write-PST several-CL short-stories MA

f. Zhangsan xieguo jipian duanpianxiaoshuo a.
Zhangsan write-PST several-CL short-stories A

g. Zhangsan xieguo jipian duanpianxiaoshuo Φ[4].
Zhangsan write-PST several-CL short-stories

Interrogative mood is marked by adding the modal particles *ne*, *ma* (吗), *ba*, and *a* to the end of the sentence. *Ma* can only be used at the end of a declarative sentence to form a question. It is used in yes-no questions. *Ne* is used at the end of a special, alternative, or rhetorical question. It can be placed at the end of an affirmative / negative question to represent uncertainty. It can also be placed at the tail of a sentence with an interrogative pronoun to represent conjecture or a tone of interrogation. *Ba* indicates doubt or supposition. And *a*, used at the end of a sentence, indicates doubt. It implies that a question is asked in a lively manner.

(2) a. Zhangsan lai shangke ma?
Zhangsan come attend-class MA
Will Zhangsan come to class?

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3) The abbreviations used in this article are as follows: ACC=accusative, C=complementizer, CL=classifier, ERG=ergative, IND=indicative, MOD=modal particle, NOM=nominative, PERF=perfective, PL=plural, PRES=present, PROG=progressive, PST=past, Qu=question marker, SG=singular, TOP=topic marker, 1=first person, 2=second, 3=third person.

4) Φ represents a null modal particle.

b. Zhangsan shenme shihou lai shangke ne?
Zhangsan what time come attend-class NE
When will Zhangsan come to class?

c. Zhangsan buhui lai shangke le ba?
Zhangsan not-will come attend-class LE BA
Zhangsan won't come to class, will he?

d. ni zhao shui a?
2SG look-for who A
Who do you look for?

Imperative mood is marked by adding the modal particles *ba,*[5] *le*, and *a* to the end of the sentence. *Ba* implies soliciting someone's advice, suggestion, request, or mild command. It expresses a proposal, consultation, command, request or agreement. *Le* indicates a request or a command. And *a* implies that the hearer is urged to do something.

(3) a. women qu jiaoyou ba.
1PL go outing BA
Let's go for an outing.

b. nimen bie qu jiaoyou le.
2PL not go outing LE
Don't go for an outing.

c. nimen yao zhuyi anquan a!
2PL must pay-attention safety A
You must pay attention to safety.

Exclamatory mood is marked by adding the modal particle *a* to the end of the sentence. *A* is attached to the end of a sentence to indicate admiration, to show approval or self-protectiveness, to urge or enjoin someone. It is used to stress the imperative mood. When used at the end of a sentence or in the middle of it, *a* may be pronounced

5) *Ba* can occur in imperatives, yes-no questions and declaratives, but it cannot occur in exclamations. According to Xu (2003), it mostly occurs in imperatives (approximately 56%). Its occurrence in interrogatives is secondary to its occurrence in imperatives. Its mental function is to infer or assess the truth value of the proposition and demand for acknowledgement. The fact that it is often used in the imperative mood is the result of pragmaticalization of its modal meaning.

or written in a different way due to the influence of the head or tail vowels of the previous word. Hence it can also occur in the form of *ya*, *wa*, and *na*.

(4) a. ta duo shenqi a!
3SG how vigorous A
How vigorous he is!

b. zhe duo meili ya!
this how beautiful YA
How beautiful it is!

c. ta de ming zhen ku a!
3SG DE fate really bitter A
How unlucky he is!

d. ni zhen hen na!
2SG really ruthless NA
How ruthless you are!

The above data suggest that modal particles occur at the end of the sentence and cannot occur coordinately. In other words, modal particles repel one another. A sentence has only one type of mood. It cannot be interrogative, imperative, or exclamatory simultaneously. Since various modal particles can occur in the same syntactic position, it follows that various modal particles have the same syntactic status; modal particles of the same type co-occur at the end of the sentence, which form a compound modal particle by means of liaison and incorporation. Hu (1981) argues that *bei* is composed of *ba* and *ai* while *ma* is composed of *me* and *a*. Zhu (1982) points out that *me* and *a* can constitute *ma*, and that *ne*, *me* and *a* can constitute *nama*. Moreover, *ne* and *ba* can co-occur, for example, *ta hai mei zou ne ba*? (lit. he still not leave NE BA, i.e. he hasn't left yet) Thus, modal particles of different types cannot co-occur in the same sentence, whereas modal particles of the same type can.

The above analysis is made in terms of single clauses. If the sentence contains an embedded clause, the case is different. Generally speaking, all the declarative modal particles can occur in embedded clauses, but none of the interrogative, imperative, and exclamatory modal particles can occur in embedded clauses, for they are subject

to strict syntactic conditions, as illustrated in (5)-(8).

(5) a. [Zhangsan lai bu lai Φ] wo bu zhidao.
Zhangsan come not come 1SG not know
I don't know whether Zhangsan will come.

b. [Zhangsan lai bu lai ne,] wo bu zhidao.
Zhangsan come not come NE 1SG not know

c. wo bu zhidao [Zhangsan lai bu lai Φ].
1SG not know Zhangsan come not come

d. wo bu zhidao [Zhangsan lai le].
1SG not know Zhangsan come LE
I don't know Zhangsan has come.

(6) a. *[Zhangsan lai ma] wo bu zhidao.
Zhangsan come MA 1SG not know

b. *wo bu zhidao [Zhangsan lai ma].
1SG not know Zhangsan come MA

c. [Zhangsan shifou lai] wo bu zhidao
Zhangsan whether come 1SG not know
I don't know whether Zhangsan will come.

d. [Zhangsan lai bu lai] wo bu zhidao.
Zhangsan come not come 1SG not know

e. wo bu zhidao [Zhangsan shifou lai].[6)]

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6) Chinese yes-no questions are formed by adding an interrogative modal particle to the end of the sentence or by using V-NEG-V behind the subject. As soon as the yes-no question combines with another clause as an embedded clause, the modal particle must be deleted. In the meanwhile, *shifou* must be added to the embedded clause to show that it is originated from a yes-no question. This implies that *shifou* serves the function of *ma* in the embedded clause. Without it, the sentence would be unacceptable, as shown in (i). To make the sentence acceptable, we must put *le* in the sentence-final position or auxiliaries *yao* / *hui* between the subject and the verb.

(i) a.*[Zhangsan lai] wo bu zhidao.
b. [Zhangsan lai le] wo bu zhidao.
c. Wo bu zhidao [Zhangsan lai le].
d. [Zhangsan yao / hui lai] wo bu zhidao.
e. Wo bu zhidao [Zhangsan yao / hui lai].

As for V-NEG-V, it can be retained in the embedded clause.

1SG not know Zhangsan whether come

f. wo bu zhidao [Zhangsan lai bu lai].
1SG not know Zhangsan come not come

(7) a. *[Zhangsan lai ba] wo bu zhidao.
Zhangsan come BA 1SG not know

b. *wo bu zhidao [Zhangsan lai ba]
1SG not know Zhangsan come BA

(8) a. *[Zhangsan zhen shenqi a] wo bu zhidao
Zhangsan really vigorous A 1SG not know

b. *wo bu zhidao [Zhangsan zhen shenqi a].
1SG not know Zhangsan really vigorous A

c. *[Zhangsan you duo shenqi] wo bu zhidao.
Zhangsan have how vigorous 1SG not know

d. ?wo bu zhidao [Zhangsan you duo shenqi].
1SG not know Zhangsan has how vigorous

e. ni bu zhidao [Zhangsan you duo shenqi].
2SG not know Zhangsan has how vigorous
You don't know how vigorous Zhangsan is.

As (5) shows, *ne* and *le* can occur in the embedded clause and the matrix clause. Declarative mood can also be marked by means of null modal particles. In both cases, the grammaticality of the sentences is not affected. As (6) shows, *ne* cannot occur in the embedded clause, including the subject clause and the object clause. Only when the interrogative modal particle has been deleted and the specifier *shifou* has been placed in front of the verbal phrase or the verb has been repeated, are the sentences grammatical. As (7) shows, *ba* cannot occur in the embedded clause. As (8) shows, *a* cannot occur in the embedded clause. If, however, the verb *you* and the adverb of degree *duo* occur in front of the adjective, the grammaticality and acceptability of the sentences increase. Obviously, though all types of modal particles can occur at the end of the matrix clause, only declarative modal particles can occur at the end of the embedded clause. In terms of the embedded clause, the distribution of interrogative, exclamatory, and

imperative modal particles differs from that of declarative modal particles. They are subject to more syntactic constraints than declarative modal particles. It follows that modal particles are base-generated in different positions.

3. The Position of Modal Particles in the Syntactic Hierarchy

As mentioned above, all the clauses bear modal markers, including null modal markers. Modal markers can occur in the form of morphemes, auxiliaries, or predicate verbs. They can occur at the beginning or end of the sentence. Declarative modal particles occurring at the beginning of the sentence function as topic or focus markers. He (2003) points out that since there is no inflection in Chinese, C does not change along with the change of auxiliaries or verbs. Thus it is impossible for modal particles to move from I to C. Tang (2010) argues that modal particles can project as functional phrases (FP). If a clause contains more than one modal particle phrase, an embedded structure is formed, as illustrated in (9).

(9) $[_{FP3}[_{FP2}[_{FP1}[_{CP}$ ta zai naer dunzhe] ne]me]a]
3SG at there squat-PROG NE ME A
He is squatting there.

However, neither He (2003) nor Tang (2010) explains how modal particles enter the syntactic structure. The position of merger of modal particles in the syntactic structure remains an outstanding problem. Where do modal particles enter the syntactic structure? Do they merge in the same position? How do modal particles merge when there is more than one modal particle? Where are modal base-generated? How are they projected? To answer these questions is of great significance to functional categories.

It is generally assumed that modal particles function as C in syntactic structure. Similar to other functional categories, they can constitute a CP and project as FP. Modal particles are base-generated at the end of the sentence and project as ModP, which merges with CP, as shown in (10) (cf. Xiong 2003).

(10) a. $[_{ModP}$ Spec$_i$ $[_{Mod`}$ Mod$[_{CP}$ t$_i]]]$

b. $[_{ModP}$ Zhangsan laile$_i$ $[_{Mod`}$ ma $[_{CP}$ $[_{TP}$ t$_i]]]$

Zhangsan come-PERF MOD

Has Zhangsan come yet?

Since there is no overt occurrence of modal particles at the beginning of the sentence, it is assumed that Mod in Chinese has EPP feature and it triggers CP to move to [Spec ModP]. The interrogative marker *ma* operates on CP because modal particles cannot be bound with the verb, whereas tense can. To put it differently, EPP in Mod moves to C and then C motivates the movement of *ma* to [Spec CP]. Since modal particles occur at the end of the sentence, they take scope over and operate on the whole sentence. They C-select a CP. Xiong (2003) argues that the positions of sentence-final modal particles are as follows:

(11) a. $[_{ModP1}$ Spec$_i$ $[_{Mod1`}$ Mod1 $[_{ModP2}$ Spec $[_{Mod2`}$ Mod2 $[_{ModP3}$ Spec $[_{Mod3`}$ Mod3 $[_{CP}$ t$_i]]]]]]]$

a/ou/ei/me/ne/ba ma/ne/ba le/ne/laizhe

b. $[_{ModP1}$ Qunzhong de qingxu jianjian pingjing xialai$_i$ $[_{Mod`}$ le$[_{CP}$ t$_i]]]]]]]$

masses DE feelings gradually calm down MOD

The masses gradually calmed down.

Modal particles in the position [Mod3 Mod3`] are closest to the CP and hence they have some something to do with tense. In fact, TP is just below the CP. It follows that the CP moves to [Spec ModP3] to give rise to the surface structure in which the modal particles occur at the end of the sentence. If there is Mod2, Mod3 continues to move to the position [Spec ModP2]. If there is Mod1, Mod3 continues to move to the position [Spec ModP1]. The subject *qunzhong de qingxu* undergoes movement from the position [Spec AspP] to the position [Spec TP] to check the EPP feature against T. Modal particles require wholesale movement and hence they cannot occur in the middle of the sentence. If they occur in the middle of the sentence, there must be a constituent which functions as a topic. It can move to the position [Spec CP] because Mod3 C-selects the CP instead of TP.

(12) [$_{ModP1}$ Lao taitai fenfu$_i$ [$_{Mod'}$ laizhe[$_{CP}$ buyao rang pangren jinlai t$_i$]]]
Old lady instruct MOD don't let others enter
Old Lady instructed not to let others come in.

Xiong (2003) argues that such an operation (i.e. CP movement) is due to heavy NP shift.

We argue, however, that there are some problems with Xiong's proposal. CP movement is not economical and ad hoc. In fact, Xiong's claim is made for the purpose of deriving the surface order in which modal particles are at the end of the sentence. CP movement is against the spirit of the Minimalist Program, for movement must be shortest and most economical. There is no reason for CP to move. As He (2003) points out, there is no inflection in Chinese, and hence there is no motivation for CP to move to the position [Spec ModP]. Thus the assumption that Mod in Chinese has EPP feature and it triggers CP to move to [Spec ModP] does not hold water. The last but not the least, CP movement has nothing to do with EPP. Modal particles at the end of the sentence are not predicates and hence there is no reason for CP to move to satisfy EPP.

Where do modal particles enter the syntactic structure? We argue that modal particles are base-generated in the same position, for various types of modal particles occupy the same syntactic position. Both the beginning and the end of the sentence are base-generated positions of modal particles. In other words, modal particles can enter the syntactic structure in different positions. The end of the sentence is the most natural position which expresses the function of the completeness of sentences. Similarly, it is also a syntax-sensitive position. If modal particles enter the syntactic structure at the end of the sentence, they can mark the mood of the whole sentence without movement. The domain of modal particles is not VP but IP. The marking of interrogative mood is realized via modal particles and they are all at the end of the sentence. Thus, the end and the beginning of the sentence are the positions where modal particles enter the syntactic structure and participate in the syntactic computation.

As far as the beginning of the sentence is concerned, it is a position where C checks its sentential features and represents its function of the completeness of sentences. As the starting point of information

communication, it tends to be topicalized or focusized. (cf. Ma, Xiong, & Xu 2010) Thus, modal particles function as topic markers. There are two approaches to topicalization. One is adjunction (Baltin 1981, Culicover 1991, Lasnik & Saito 1992) and the other obligatory substitution movement (Müller & Sternefeld 1993, Hatakeyama 1998). The former assumes that the topic is in the adjunct position while the latter assumes that the topic occupies the position [Spec TopP] after obligatory substitution movement. Whether modal particles are generated in the way of IP adjunction or in the way of obligatory substitution movement, they should be base-generated at the end of the sentence. Triggered by topicalization, they move overtly to [Spec TopP] to satisfy the Spec-Head agreement.[7)]

(13) a. $[_{IP}$ Mod$_i$ $[_{IP}$ Spec $[_{I'}$I$[_{VP}$ V` t$_i$]]]]
b. $[_{TopP}$ Mod$_i$ $[_{TopP'}$Top$[_{IP}$I`$[_{VP}$ V` t$_i$]]]]

(14) a. *$[_{IP}$ jipian duanpianxiaoshuo a$_i$ $[_{IP}$ Zhangsan $[_{I'}$I$[_{VP}$ xieguo t$_i$]]]]
b. *$[_{IP}$ jipian duanpianxiaoshuo le$_i$ $[_{IP}$ Zhangsan $[_{I'}$I$[_{VP}$ xieguo

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7) It must be pointed out that it is modal particles that license topics. Compare:

(i) a. Zhangsan zhengtian kan donghuapian. (non-topicaliation)
Zhangsan all-day watch cartoon
Zhangsan watches cartoons all day.
b. Zhangsan a zhengtian kan donghuapian. (topicalization)
Zhangsan A all-day watch cartoon
As far as Zhangsan is concerned, he watches cartoons all day.
c. Zhangsan, zhengtian kan donghuapian. (topicalization)
The differences between the three sentences are shown as follows:

(ii) a. $[_{TopP}$ Spec $[_{TopP'}$ Top $[_{IP}$ $[_{I'}$ I Zhangsan $[_{VP}$ zhengtain kan donghuapian]]]]] (non-topicalization)
b. $[_{TopP}$ Zhangsan $[_{TopP'}$ a $[_{IP}$ $[_{I'}$ I $[_{VP}$ zhengtian kan donghuapian]]]]] (topicalization)
c. $[_{TopP}$ Zhangsan $[_{TopP'}$ Top $[_{IP}$ $[_{I'}$ I $[_{VP}$ zhengtian kan donghuapian]]]]] (topicalization)
d. *$[_{TopP}$ Zhangsan $[_{TopP'}$ Top $[_{IP}$ $[_{I'}$ I $[_{VP}$ zhengtian kan donghuapian]]]]] (topicalization)

As (ii) shows, a modal particle or comma is indispensable in topicalization. Comma which indicates pause can serve as a topic marker. According to Harries-Delisle (1978), pause is often used as a topic-marker in Russian, Vietnamese and Tatar. Hence we argue that topics are licensed by modal particles or pause.

(iii) *$[_{TopP}$ Zhangsan $[_{TopP'}$ Top $[_{IP}$ $[_{I'}$ I $[_{VP}$ zhengtian kan donghuapian]]]]] (topicalization)

t_i]]]]

c. *[$_{IP}$ jipian duanpianxiaoshuo de$_i$ [$_{IP}$ Zhangsan [$_{I'}$I[$_{VP}$ xieguo t_i]]]]

d. *[$_{IP}$ jipian duanpianxiaoshuo ne$_i$ [$_{IP}$ Zhangsan [$_{I'}$I[$_{VP}$ xieguo t_i]]]]

e. *[$_{IP}$ jipian duanpianxiaoshuo bale$_i$ [$_{IP}$ Zhangsan [$_{I'}$I[$_{VP}$ xieguo t_i]]]]

As (13) shows, modal particles are base-generated at the end of the sentence and move to the position [Spec IP] or [Spec TopP] for the purpose of topicalization. There are, however, problems with the two approaches, as shown in (14). Modal particles can be generated at the end of the sentence, but they cannot move to the position [Spec IP] or [Spec TopP]. There is no direct grammatical relation between the NP *jipian duanpianxiaoshuo* and the modal particles *a*, *le*, *de*, *ne*, and *bale*. Therefore, following Xu & Liu (1998), Li & Zhao (2002) and Yang (2011a, 2011b), we argue that Chinese topics are base-generated in the position [Spec TopP], and the modal particles functioning as topic markers are base-generated in the head position [Top Top`], as shown below.

(15) [$_{TopP}$ Spec [$_{TopP'}$ Mod[$_{IP}$ Spec[$_{I'}$ I[$_{VP}$]]]]]

(16) a. [$_{TopP}$ najianshi [$_{TopP'}$ a[$_{IP}$ Zhangsan[$_{I'}$I[$_{VP}$ zhidao]]]]]
that-CL-thing A Zhangsan know
Zhangsan knows that.

b. [$_{TopP}$ Nanjinglu[$_{TopP'}$ a[$_{IP}$ ren [$_{I'}$I [$_{VP}$ duoji le]]]]]
Nanjing-Road A people many-extremely LE
There are so many people on Nanjing Road.

c. *[$_{TopP}$ Nanjinglu[$_{TopP'}$ le a[$_{IP}$ ren[$_{I'}$I[$_{VP}$ duoji]]]]]

(15) correctly predicts that the relation between the topic and the topic marker, i.e. the topic precedes the topic marker, and not vice versa. Furthermore, this approach does not involve the movement of modal particles, which is in accordance with the Minimalist Program. Because there is no inflectional change in Chinese, and modal particles do not raise either. Hence, to assume that topics and modal

particles are base-generated in [Spec TopP] and [Top Top`] respectively can give a unified account of various types of topic constructions, and it is in accordance with the minimalist principle. Secondly, that topics and modal particles functioning as topic markers are base-generated in the topic position can avoid the problem of modal particles' movement, because modal particles do not move. Thirdly, this approach can avoid the order of generation of topics and topic markers, i.e. whether the generation of topics is prior to the generation of topic markers or vice versa. It is noteworthy that not all of modal particles can occur in the position [Top Top`]. Besides *a* and *ya*, only *ma* can occur in this position, as illustrated in (17).

(17) a. [$_{TopP}$ kexue[$_{TopP`}$ ma[$_{IP}$ [$_{I`}$ jiude [$_{VP}$ jiangjiu shishiqiushi]]]]]
science MA must stress seek-truth-from-facts
Where science is concerned, we should be really practical.

b. [$_{TopP}$ qishi [$_{TopP`}$ ma[$_{IP}$ zeren [$_{I`}$ I[$_{VP}$ zai lingdao]]]]]
actually MA responsibility at leader
As a matter of fact, the blame is on the leadership.

In most cases, modal particles occur at the end of the sentence. How shall we analyze the syntactic status of modal particles occurring at the end of the sentence? What is the relationship between modal particles and VP? The end of the sentence is the most natural position for the completeness of sentences. When functional markers occur in this position, the corresponding functional features as single formal features move to the beginning of the sentence to be checked, and the categories serving as functional markers remain in situ. Hence the end of the sentence is a position sensitive to the syntactic operation. Since more than one modal particle can occur at the end of the sentence, it can be inferred that there is more than one position for merger of modal particles at the end of the sentence. Since modal particles repel each other, a syntactic position can be occupied by only one modal particle of the same type. Then, how many syntactic positions are there at the end of the sentence for modal particles to enter? Which modal particles can occur at the end of the sentence? How will they be arranged when there is more than one modal particle? What syntactic constraints are they subject to? According to Tang (2010), modal particles are arranged hierarchically, as shown in

(18).

(18) le > ne > ba/ma/me > a/ai/ou

ne+me+a can form a compound modal particle *nema*, *me+a* can form a compound modal particle *ma*, and *ba+ai* can form a compound modal particle *bei*. (Hu 1981, Zhu 1982) This suggests that the arrangement of modal particles is subject to strict order, and hence they cannot be reversed.[8] Secondly, modal particles at the same level cannot co-occur. For example, such combinations as *ba+ma*, *ba+me*, *a+ai*, *a+ou*, *ai+ou* do not take place. Thirdly, only modal particles which are adjacent in the hierarchy can form compound modal particles. *Le* can merge with *ne*, *ba*, *ma*, *me*, *a*, *ai*, or *ou*. Similarly, *ne* can merge with *ba*, *ma*, *me*, *a*, *ai*, or *ou*. Fourthly, the more leftward the modal particles are, the less likely they are to be used as topic markers. On the contrary, the more rightward they are, the more likely they are to be used as topic markers. Fifthly, there is no interreplacability and interdependence between modal particles at different levels. Hence, modal particles cannot adjoin to each other as adjuncts. In effect, all modal particles enter the syntactic structure in different positions, which implies that they are base-generated in different positions. Their function is similar to that of adjuncts in the sentence-final position. They modify the whole sentence, i.e. IP. In this case, they can be regarded as IP operators. Following Yang (2011b, 2011c), we propose that they enter the syntactic structure in different positions, as illustrated in (19).

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8) Following Dai (2009), we propose that compound modal particles can be seen as the consequence of structuralization, which means that when two or three modal particles occur coordinately, their order remains the same, i.e. the order cannot be changed or reversed. It follows that they are subject to a universal principle, i.e. that aspect precedes modality. In fact, most of the modal particles in Chinese represent not only aspect but also modality. They are a mixture of aspect and modality. Aspect is part of the predication, and hence it is related to action or behavior. It is expressed by means of inflections, auxiliaries, or adverbs. Modality is a kind of emotional semantics. It expresses the speaker's attitude towards the propositional content of the sentence, and it is expressed by means of the tone, which takes scope over the whole sentence and functions at the end of the sentence. Strong tone is often embodied and fixed in the form of one or two modal particles for intonation. The stronger a modal particle's aspect is, the weaker its modality is, and vice versa. Since the sentence is mainly used for predication, when two or three modal particles occur coordinately, modal particles with strong aspect tend to precede modal particles with weak aspect for the purpose of predication and the completeness of sentences respectively.

(19) $[_{IP}[_{IP}[_{IP}[_{IP}I[_{VP}V$ DP] ModA] ModB] ModC] ModD]
le ne ba/ma/me a/ai/ou

As (19) shows, there are at most four positions at the end of the sentence for modal particles to occupy, that is, ModA, ModB, Mod, and ModD. ModA follows VP, which has a distinct tendency to modify VP. This position is often occupied by temporal modal particles that can occur in all the types of sentences, including declarative, interrogative, imperative, and exclamatory sentences. Hence, it follows that declarative sentences are the basis on which other types of sentences are generated. That is, other types of sentences are generated by adding various modal particles to declarative sentences.[9] The modal par-

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9) This inference can be testified cross-linguistically. In Leqi, a Tibeto-Burman language, the interrogative modal particle follows the declarative modal particle *pjɛ*^{33} which serves as a perfective marker (cf. Dai & Li 2007: 180-181), as illustrated in (i).

(i) a. naŋ^{53} mut^{55} pjɛ^{33} la^{55}
2SG hungry MOD MOD
Are you hungry?

b. naŋ^{53} ji:^{33} pjɛ^{33} la^{55}
2SG go MOD MOD
Did you go?

c. naŋ^{53} wɔm^{33} tso^{33} pjɛ^{33} la^{55}
2SG dinner eat MOD MOD
Did you have dinner?

d. naŋ^{53} ŋjaŋ^{33} le^{55} mja:ŋ$^{53/31}$ pjɛ^{33} la^{55}
2SG 3SG-ACC see MOD MOD
Did you see him?

In Hani, the modal particle *a*^{31} or *la*^{31} often co-occurs with *ŋa*^{33}, *u*^{55}, and *li*^{55} which represent declarative (Ma 2003: 450-451). For example,

(ii) a. a^{31} jo^{31} ŋɯ^{55} ŋa^{33} la^{31}
3SG is MOD MOD
Is that him?

b. no^{55} dza^{31} u^{55} a^{31}
2SG eat MOD MOD
Do you eat?

As far as Uyghur is concerned, the interrogative sentence is formed by adding the interrogative modal particle *mu* to the end of the declarative sentence (Litip 2001: 165).

(iii) a. Tursun xät yazdi.
Tursun letter write-PST-IND-3SG
Tursun wrote a letter.

ticle *ne*[10] represents not only interrogative but also focus, that is, it has some of the declarative and interrogative features. Hence it can co-occur with *le* at the end of the declarative sentence and co-occur with *ba* at the end of the interrogative sentence. However, its declarative mood is not as strong as that of *le*, and its interrogative mood is not as strong as that of *ma*. Thus, it is a weak declarative modal particle or a weak interrogative modal particle. It lies between typical declarative modal particles and typical interrogative modal particles. It occupies ModB, and hence it has a tendency to modify the subject. The modal particles *ba*, *ma*, and *me*, which represent degree, enter the syntactic structure in ModC. They have strong typical interrogative features. They take scope over the whole IP, as a consequence of which, as Tang (2010) points out, the whole IP has interrogative function and requires the hearer to answer. Hence we argue that these modal particles occur in the matrix clause only, and they cannot occur in the embedded clause. Whether interrogative sentences combine with interrogative sentences or declarative sentences, interrogative modal particles occur at the end of the sentence as a modifier of IP, and only one modal particle can occur in this position. The mood, semantics, and form of the matrix clause must agree with those of the embedded clause. That is, they must conform to the Principle of Agreement. However, all these modal particles can co-occur with *le*, which testifies that interrogative sentences are generated on the basis of declarative sentences. The modal particles *a*, *ai*, and *ou*, which represent emotion, enter the syntactic structure in ModD. They have a

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b. Tursun xät yazdimu?
Tursun letter write write-PST-IND-3SG-MOD
Did Tursun write a letter?

10) The modal particle *ne* represents not only interrogative mood but also focus. It can occur in declarative and interrogative sentences. Hence it is not a typical interrogative modal particle. In fact, it is a transitional form between the declarative modal particle and the interrogative modal particle. It has some of the features of the two types of modal particles. Thus, in the syntactic hierarchy, it follows the declarative modal particle *le* but precedes the interrogative modal particle *ma*, as illustrated in (i).

(i) a. ni qia huar ne ma?
2SG pick flower NE MA
Are you picking flowers?

b. ni jinwan bushi yao yangshen ne ma?
2SG this-evening not want repose NE MA
Aren't you going to repose this evening?

tendency to modify the IP. Modal particles of this type are at the top of the syntactic structure and farthest from the VP. Hence, they are most likely to be topic markers. They can co-occur with the modal particle *le*. It is noteworthy that modal particles of all types can co-occur with the temporal modal particle *le*, which, as Yang (2011b) argues, is quite common. However, modal particles of other types seldom co-occur. Some of them cannot co-occur. In general, modal particles which are adjacent can combine, whereas those which are not adjacent cannot, as shown in the following Table.

Table 1. The Co-occurrences of Modal Particles

Co-occurrence of modal particles	Cases	Co-occurrence of modal particles	Cases	Co-occurrence of modal particles	Cases	Co-occurrence of modal particles	Cases	Co-occurrence of modal particles	Cases
le ne	2,899								
le ba	5,736	*ne ba*	18						
le ma	8,957	*ne ma*	18						
le me	0	*ne me*	0						
le a	581	*ne a*	2	*ba a*	8	*ma a*	3	*me a*	0
le ai	5	*ne ai*	0	*ba ai*	0	*ma ai*	0	*me ai*	0
le ou	20	*ne ou*	0	*ba ou*	0	*ma ou*	0	*me ou*	0

(Based on CCL Corpus)

The table suggests that the temporal modal particle, *le*, is a core modifier of the VP. It can co-occur with the modal particles of all types. That is, it can co-occur with the modal particles which are adjacent in the hierarchy as well as the modal particles which are not adjacent in the hierarchy. It is not subject to the constraint on the merger of modal particles. In contrast, the modal particles which occupy ModB, ModC and ModD cannot co-occur unless they are adjacent in the hierarchy, which shows that they are subject to the constraint on the merger of modal particles.

(20) a. ModA+ModB b. ModA+ModC
c. ModA+ModD d. ModA+ModB+ModC
e. ModA+ModB+ModC+ModD f. ModB+ModC

g. ModC+ModD h. ModB+ModC+ModD
i.*ModB+ModD

As (20) shows, compared with interrogative, imperative, and exclamatory modal particles, declarative modal particles are predominant in terms of linear order. They can co-occur with interrogative, imperative, and exclamatory modal particles. Interrogative modal particles can co-occur with imperative modal particles which can co-occur with exclamatory modal particles. However, interrogative modal particles cannot co-occur with exclamatory modal particles unless imperative modal particles intervene between them. It shows that modal particles are arranged hierarchically. Only the modal particles which are adjacent in the hierarchy of modal particles can merge or co-occur. If the modal particles which are not adjacent in the hierarchy merge or co-occur, there would be ungrammatical constructions. It seems that hierarchical subjacency is a constraint on the merger or co-occurrence of modal particles. On the other hand, there is asymmetrical c-command between modal particles. A modal particle cannot merge or co-occur with another modal particle unless the former c-commands the latter. Rather, merged or co-occurring modal particles must be close mates in the hierarchy. In a word, no merger or co-occurrence can cross over more than one bounding node in a step, where bounding nodes are CP and IP. Based on the above discussion, we propose the constraints on merger/co-occurrence of modal particles.

(21) The Constraints on Modal Particle Merger/Co-occurrence
a. α can merge with β if and only if α c-commands β.
b. Merger takes place rightward.
c. Co-occurrence takes place between close modal particle mates.

In terms of linear order, modal particles cannot be merged unless there is asymmetrical c-command between them. Hence the order of modal particles cannot be reversed. In other words, various types of modal particles follow the Linearity Principle. If modal particles are merged leftward, the combinations would be illicit, as shown below.

(22) a. *ModB+ModA b. *ModC+ModA
c. *ModD+ModA d. *ModC+ModB

e. *ModD+ModB f. *ModD+ModC
g. *ModD+ModC+ModB h. *ModD+ModC+ModB+ModA

(23) a. ta qu nali le ne? / *… ne le?
3SG go where Le NE NE LE
Where has he gone?

b. women gai zou le ba?/ *…ba le?
1PL should walk LE BA BA LE
Shall we go now?

c. ni xia le ba?/ *…ba le?
2SG blind LE BA BA LE
Are you blind?

d. ni shi dou wo wan ne ba?/* …ba ne?
2SG be tease 1SG play NE BA BA NE
Are you teasing me?

e. wo bushi zheng shuijiao ne ma?/*…ma ne?
1SG not just sleep NE MA MA NE
Aren't I sleeping right now?

f. shao he dian ba a?/*…a ba?
little drink bit BA A A BA
Would you please drink only a little bit?

g. ni jiujing zai gan ma a?/*… a ma?
2SG on-earth at do MA A A MA
What on earth are you doing?

Since modal particles are subject to strict syntactic constraints, they enter the syntactic structure in different positions and participate in the syntactic computation. As mentioned above, they enter the syntactic structure in ModA, ModB, ModC, and ModD respectively. The positions in which they enter the syntactic structure have effect upon the interpretation. In general, the modal particles which merge in ModA c-command the VP, and hence they modify the VP only, which represents temporal declaration. The modal particles which merge in ModB c-command the IP, and hence they modify the IP. The modal particles which merge in ModC c-command the subject at the peripheral of the phase, and hence they have a tendency to modify the

subject. The modal particles which merge in ModD modify the whole sentence IP. The modal particles which merge in ModA cannot move to the beginning of the sentence via focalization, and hence they cannot modify the whole sentence. This also testifies that the VP cannot move to the beginning of the sentence. The modal particles which merge in ModB, ModC, and ModD can all move to the beginning of the sentence and function as topic or focus markers. This fact shows that modification is a relation of c-command. As Yang (2011b) points out, c-command which is base-generated determines the relation between the modifier and the modified.

However, there is a crucial question we have not answered yet. What syntactic constraints are the distribution and word order of the modal particles occurring at the end of the sentence subject to? We argue that they are subject to the double constraints of the Locality Principle and the Prominence Principle, which coordinate and constrain the operation of the grammatical system. Following Hu (2002, 2010), we define the two principles as follows:

(24) a. The Locality Principle
The grammatical system prefers to select and process or compute the constituent which is most local.

b. The Prominence Principle
The grammatical system prefers to select and process or compute the constituent which is most prominent.

What is the most optimal is that the most local constituent corresponds to the most prominent constituent. However, the most local constituent is not necessarily the most prominent constituent. Similarly, the most prominent constituent is not necessarily the most local constituent. Nevertheless, prominence corresponds to topicality, and locality corresponds to focus. The more prominent a constituent is, the more likely it is to be a topic or topic marker. Accordingly, the more local a constituent is, the more likely it is to be a focus or focus marker. In light of Bresnan (2001), prominence is determined by the following factors: 1) the linear order determined by the constituent structure (c-structure); 2) the syntactic hierarchy determined by the function structure (f-structure); 3) the thematic hierarchy. As far as modal particles are concerned, we argue that the more adjacent they

are to the VP, the smaller their scopes are, the more local they are, and the more likely they are to function as focus markers. Convertsely, the farther they are from the VP, the bigger their scopes are, the more prominent they are, and the more likely they are to function as topic markers. Obviously, there is asymmetry between locality and prominence. The locality and prominence of modal particles are determined by their positions in the syntactic hierarchy. The higher they are in the syntactic hierarchy, the more likely they are to function as topic markers, and the less likely they are to function as focus markers. In contrast, the lower they are in the syntactic hierarchy, the more likely they are to function as focus markers, and the less likely they are to function as topic markers. This is why *a*, which occupies ModD, is the most common modal particle occurring at the end of the sentence and topic marker occurring at the beginning of the sentence. Its grammaticality and acceptability functioning as a topic marker are higher than those of *ne* and *me*, which occupy ModB and ModC respectively. By comparison, the grammaticality and acceptability of *le* functioning as a focus marker are even higher than those of *ne* because *le* occupies ModA, the lowest position in the syntactic hierarchy of modal particles.

(25) a. wo yizhi mei ti najian shi a.
1SG always not mention that-CL matter A
I have never mentioned that matter.

b. najian shi a, wo yizhi mei ti. (topicalization)
that-CL matter A 1SG always not mention

(26) a. ta zai naer dunzhe ne me a.
3SG at there squat-PROG NE ME A
He is squatting there.

b. ta a, zai naer dunzhe ne me. (topicalization)
3SG A at there squat-PROG NE ME

c. ?ta me, zai naer dunzhe ne a. (topicalization)
3SG ME at there squat-PROG NE A

d. ?ta ne, zai naer dunzhe me a. (topicalization)
3SG NE at there squat-PROG ME A

(27) a. wo chiguo fan le cai lai de
1SG eat-PST dinner LE just come DE
I didn't come until I had had dinner.

b. *chiguo fan le wo cai lai de. (focalization)
eat-PST dinner LE 1SG just come DE

c. wo shi chiguo fan le cai lai de. (focalization)
1SG be eat-PST dinner LE just come DE

(28) a. wo zhengzai xie maobi ne.
1SG right-now write Chinese-brush NE
I am writing with the Chinese brush right now.

b. *xie maobi ne wo zhengzai. (focalization)
write Chinese-brush NE 1SG right-now

c. *wo shi zhengzai xie maobi ne. (focalization)
1SG be right-now write Chinese-brush NE

(25)-(28) shows that locality and prominence are crucial in determining the possibility for a sentence to license topicalized or focalized constituents. *Ne* cannot occur in non-prototypical patient object sentences.[11)]

(29) a. *Zhangsan xie maobi ne.
Zhangsan write Chinese-brush NE

b. *Zhangsan xiezhe maobi ne.
Zhangsan write-PROG Chinese-brush NE

c. ?Zhangsan zhengzai xie maobi ne.
Zhangsan right-now write Chinese-brush NE

d. ?Zhangsan zhengzai xiezhe maobi ne.
Zhangsan right-now write-PROG Chinese-brush NE

(30) a. *Mama zhu xiaomi ne.
Mother cook millet NE

11) Non-prototypical patient object sentences refer to those whose objects are undertaken by material, instrument, location, motivation, and manner constituents. Compared with prototypical patients, these constituents lack changeability, gradualness, passiveness, static characteristic, and dependence (Yang 2011c).

b. *Mama zhuzhe xiaomi ne.
Mother cook-PROG millet NE

c. ?Mama zhengzai zhu xiaomi ne.
Mother right-now cook millet NE

d. ?Mama zhengzai zhuzhe xiaomi ne.
Mother right-now cook-PROG millet NE

If *ne* occurs at the end of the sentence, it is high in the syntactic hierarchy. It can bind the event / state variables entailed by the verb and license IP. Moreover, it can bind the nominal variables in the object NP c-commanded by it and license the null D of DP. (cf. Hu & Shi 2005) Since the null heads of *maobi* and *xiaomi* in (29) and (30) are licensed, (a) and (b) are ungrammatical. On the other hand, aspect markers in Chinese usually occur behind the verb. Only the particle *zhengzai*, which represent progression, occurs in front of the verb. It is higher than other aspect particles in the syntactic hierarchy. It is characteristic of IP operators. Hence, as Yang (2011c) argues, it can license the null head D of DP. However, (c) and (d) in (29) and (30) are acceptable to some degree.

It is believed that the Chinese *wh*-words are indefinites which lack quantificational force in Chinese *wh*-questions and thus the Chinese interrogative marker *ne* can serve as a question operator which therefore binds the variable *wh*-words. (Aoun & Li 1993) If it does not occur, there must be a covert question operator. It moves to the specifier position in S-structure and it can co-refer with the *wh*-word in situ. The scope of the *wh*-word is determined by the co-reference of the question operator. *Wh*-elements in situ are coindexed and interpreted with respect to a question operator that is raised to the appropriate Spec of Comp by S-structure. Aoun & Li (1993) argues that Chinese has overt raising of a question operator and the scope of *wh*-in-situ is determined by reference to the question operator it is coindexed with.

(31) ni yao shenme ne?
2SG want what NE
What do you want?

As (31) shows, the interrogative marker *ne* at the end of the sentence is generated on the basis of Spec-Head agreement. It functions as a question operator and co-refers with the pronoun *shenme*, which gives rise to the relation where the operator binds the variable and assigns interrogative force to *shenme*. In this case, (31) can be interpreted as an interrogative sentence. We argue, however, that *ne* cannot be a pure syntactic marker if it depends upon context, that is, it cannot function as a question operator. Since the use of *ne* in the interrogative sentence is subject to some constraints, it should not be regarded as a question operator. It takes a narrow scope. As part of the clause, it is in the C position (cf. Cheng 1991, 1997, Hu 2002, Tsai 1994, Shi 1994). This position is usually occupied by Q of English *wh*-questions. Since Q has a strong interrogative force, it attracts the auxiliary to move and adjoin to it in the C position. Since Chinese is a head-final language, the corresponding position in Chinese is at the end of the sentence and it is occupied by modal particles. Thus *ne* is equivalent to the English morpheme Q. Following Hu (2002), we assume that the Chinese Q has a weak force. As a consequence, the interrogative modal particle cannot be triggered to move overtly. If we believe that *ne* is in the C position, Q in this position bears [+Q] feature, which assures that the whole sentence be interpreted. In effect, *ne* should be in the C [+Q] position. *Wh*-words are interpreted with the modal particle *ne* by agreement or selecting functions. In this way the *wh*-questions in Chinese can be properly explained. As the sub-label [+Q] of C [+Q] suggests, C [+Q], in which *ne* is, bears [+Q] feature, which seems to prove that *ne* has interrogative feature syntactically. If *ne* has an interrogative feature syntactically, since it has no interrogative meaning in terms of lexical level and hence carries no interrogative information, then it has syntactical-semantic asymmetry in the interrogative sentence. The asymmetry explains why *ne* in Chinese is an interrogative modal particle in terms of syntax but cannot function as a question operator. We argue that *wh*-words assign modal particles pragmatic function because *wh*-words in Chinese have inner interrogative force. In terms of interrogative function, sentence-final modal particles are adjoined to a proposition. The interrogative scope of *wh*-questions is only a point while the scope of yes-no questions is only a local domain. Since they conflict with the requirement that sentence-final modal particles take the whole proposition as their

interrogative scope, *ne* occurring at the end of the sentences is not a question operator. In fact, as Ma (2006) argues, it is a pragmatic marker. It bears no interrogative information. Its occurrence in the sentence depends on context and it cannot enter LF.

4. Accounts of Agreement

Why do declarative modal particles can occur freely in the matrix clause and the embedded clause, whereas interrogative, imperative, and exclamatory modal particles can only occur in the matrix clause, not in the embedded clause? What syntactic constraints are they subject to? When the interrogative, imperative, and exclamatory clauses combine with the declarative clause, how is the interrogative, imperative, and exclamatory mood represented? According to the above analysis, declarative mood can be marked by means of null modal particles, which implies that declarative mood is unmarked, whereas interrogative, imperative, and exclamatory mood is marked. As unmarked forms, declarative modal particles can occur freely. In contrast, as marked forms, interrogative, imperative, and exclamatory modal particles can occur in the embedded clause only. However, this analysis cannot solve the problems we have proposed above completely. Moreover, it lacks operability in the grammatical system. It seems that we have to find a theoretical approach which is more plausible and operable.

In the light of the analysis above, interrogative, imperative, and exclamatory modal particles occur freely in the matrix clause. But they must be deleted in the embedded clause. Interrogative mood and exclamatory mood are represented by means *shifou* and repeated verbs as well as the verb *you* and the adverb of degree *duo* or *duome*. Interrogative mood and exclamatory mood have weakened or been lost, as a consequence of which the modal particles cannot occur in the embedded clause. In this case, the forms of interrogative and exclamatory modal particles change. The modal particles at the end of the sentence change into the adverbs in front of the verb phrase or repeated verbs. Why must interrogative and exclamatory mood change overtly? Xu (1999) argues that this is due to the fact that syntax is sensitive to the interrogative marker [+Qu] from lexicon, for once

syntax finds the marker, it will start the self-destroying system automatically and stop processing, which gives rise to ungrammatical constructions, for example, **wo xiang zhidao ta mingtian hui lai ma* (lit. I want to know he will come MA). Following He (2003), we argue that interrogative modal particles, including null markers, should project as a phrase structure to become part of the CP or IP. In the CP, the interrogative marker and the specifier in Chinese incorporate into one, which is represented as modal particles *ma* and *ne*. In the IP, the interrogative marker and I (auxiliary or predicate verb) are separated. It is noteworthy that the interrogative markers in the CP and IP must agree with each other, that is, once the CP contains an interrogative marker, the IP must contain an interrogative marker, too. On the contrary, if the CP contains no interrogative marker, the IP does not contain an interrogative marker either. The principle of agreement is based on the types of sentences. The types of single and matrix clauses are determined by context, whereas the types of embedded clauses are determined by the verb of the matrix clause.[12] (cf. Rizzi 1997) If the declarative matrix clause combines with the interrogative embedded clause, the mood of the whole sentence is determined by the matrix clause. Since the CP in the matrix clause contains no interrogative marker, its IP contains no interrogative marker either. Similarly, the CP and IP of the embedded clause contain no interrogative marker. Therefore, there is no reason for interrogative modal particles to occur overtly, and they must be deleted. To put it differently, the single clause, which is originally interrogative, has lost its interrogative function when it is embedded and turns to be declarative. Thus, as Yang (2011b) argues, the interrogative modal particles, similar to a null I, cannot occur overtly. The analysis above can be summarized as follows:

(32) a. $[C_{-Qu},\ I_{-Qu}\ [C_{-Qu},\ I_{-Qu}]]$ b. $*[C_{-Qu},\ I_{-Qu}\ [C_{+Qu},\ I_{+Qu}]]$
c. $*[C_{-Qu},\ I_{+Qu}\ [C_{-Qu},\ I_{-Qu}]]$ d. $*[C_{+Qu},\ I_{-Qu}\ [C_{-Qu},\ I_{-Qu}]]$

In terms of linguistic typology, the occurrence of the interrogative modal particle in the embedded clause is related to the mood of the ma-

12) Haegeman (2002, 2004a, 2004b, 2006) claims that certain types of subordinate clauses, which are traditionally considered as embedded clauses, display root properties and hence have a peculiar status.

trix clause, viz. there is implication between them. We refer the matrix clause to an antecedent (represented by X) and the embedded clause a consequent (represented by Y). We posit that if there is an antecedent, there must be a consequent, viz. X⊃Y. Following the tetrachoric table proposed by Greenberg (1966), we propose the possible types of mood of the matrix clause and the embedded clause, shown as in (33).

(33)

+declarative matrix clause, +declarative embedded clause	- declarative matrix clause, + declarative embedded clause
*(+ declarative matrix clause, - declarative embedded clause)	- declarative matrix clause, - declarative embedded clause

Based on (33), we conclude:

a. If the matrix clause is declarative, the embedded is declarative: possible. (e.g. *ni zhidao* [*ta hui lai*].)
b. If the matrix clause is non-declarative, the embedded clause is declarative: possible. (e.g. *ni zhidao* [*ta hui lai*] *ma*?)
c. If the matrix clause is declarative, the embedded clause is non-declarative: impossible. (e.g. **ni zhidao* [*ta hui lai ma*])
d. If the matrix clause is non-declarative, the embedded clause is non-declarative: possible. (e.g. *ni zhidao* [*ta shifou hui lai*] *ma*?)

In the implicational universals, the consequent is more dominant than the antecedent. In the tetrachoric table, the dominant item appears twice, whereas the non-dominant item appears only once and it must be harmonic. It follows that the mood of the matrix clause determines the mood of the embedded clause and there must be harmony between them. Based on this, the harmonic relation between the matrix clause and the embedded clause and the interaction rules of the dominant item can be summarized as (34).

(34) a. If there is harmonic relation between the mood of the matrix clause and the mood of the embedded clause, the matrix clause and the embedded can co-occur in the same sentence, even if there is a non-dominant item.

b. If both the mood of the matrix clause and the mood of the

embedded clause are dominant items, the matrix clause and the embedded clause can co-occur in the same sentence, even if there is no harmonic relation between them.[13)]

The analysis above suggests that when the interrogative clause is embedded in the declarative matrix clause, the interrogative modal particle cannot occur, and hence it must be deleted. To put it differently, the interrogative modal particle cannot occur in the embedded clause following the declarative matrix clause. If we transform the declarative matrix clause into an interrogative matrix clause, can the interrogative modal particle occur in the embedded clause? Consider the examples in (38).

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13) The proposal that the mood of the matrix clause determines the mood of the embedded clause is universal in different languages. In English, the auxiliary can serve as a complementizer. Hence it has three functions: I, C, and Qu-marker. It can move from I to C. In German, the matrix verbs can serve as a complementizer. It undergoes V-I-C movement. (cf. He 2003)

(i) a. $[_{CP}$ Who$_i$ [does$_j$] + $_{Qu}[_{IP}$ he [t$_j$] + $_{Qu}[_{VP}$ like t$_i$]]]
b. $[_{CP}$ Wem$_i$ [glaubst$_j$] + $_{Qu}[_{IP}$ du [t$_j$] + $_{Qu}[_{VP}$ t$_j$ [er t$_i$ gesehen hat]]]
who think 2SG 3SG seen has
Who do you think he has seen?

In Japanese, the interrogative modal particle *ka* can occur in the matrix or embedded object clause. But it has different functions under the two circumstances. If it occurs at the end of the matrix clause, the whole sentence is of interrogative nature. The whole sentence, however, is declarative if it occurs at the end of the embedded object clause which has lost its interrogative function. This suggests that *ka* is not sensitive to the feature [+Qu].

(ii) a. Tanaka-kun-wa [Mary-ga nani-o kat-ta koto-o] sitte-imasu ka? (Nishigauchi 1990)
Tanaka-Mr.-TOP Mary-NOM what-ACC buy-PERF C know-AUX Qu
Does Mr. Tanaka know [what Mary has bought]?

b. Tanaka-kun-wa [Mary-ga nani-o kat-ta ka] sitte-imasu。
Tanaka-Mr.-TOP Mary-NOM what-ACC buy-PERF Qu know-AUX
Mr. Tanaka knows what Mary has bought.

In Hindi, the matrix clause or embedded clause containing the interrogative *kya* does not represent interrogative unless it contains the interrogative modal particle *kyaa*.

(iii) a. Tum [ki us-ne kya kiyaa] kyaa jaante ho? (Dayal 1996)
2SG C 3SG-ERG what do-PST Qu know PRES
Do you know [what he did yesterday]?

b. Tum [ki us-ne kya kiyaa] jaante ho.
2SG C 3SG-ERG what-PST know PRES
You know what he did yesterday.

(35) a. *ni weishenme shuo [ta jintian hui lai ma] ?
3SG why say 3SG today will come MA

b. *ni zhidao[ta jintian lai ma]
2SG know 3SG today come MA

c. ni weishenme shuo [ta jintian hui lai] ?
2SG why say 3SG today will come
Why did you say that he would come today?

d. ni zhidao [ta jintian hui lai] ma?[14)]
2SG know 3SG today will come MA
Do you know he will come today?

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14) In (35d), *hui* cannot be taken as an indicator of the position of *ma*. *hui* and *ma* serve different functions. As we argue above, *ma* is an interrogative modal particle, and it can occur at the end of a sentence. To put it differently, it can occur only at the end of the simple or the matrix clause but it cannot occur at the end of the embedded clause. *hui* is an auxiliary representing possibility. It is equal to "will", "would", "can" or "could". If the matrix verb in (35b) and (35d) is replaced with *xiangzhidao* (wonder), the sentences can be analyzed in the same way. As (i) shows, *hui* and *ma* can occur in the same sentence but serve different functions.

(i) a. ni xiangzhidao [ta jintian hui lai] ma?
b.*ni xiangzhidao [ta jintian hui lai ma]?

We argue that yes-no questions and *wh*-questions in Chinese have complementizers, whose function may be served by *wh*-words and interrogative modal particles. Complementizers can be overt or covert, as shown in (ii). Though the embedded contains a *wh*-word, the whole sentence may be interrogative or declarative.

(ii) a. ni zhidao [Zhangsan zuotian zuole shenme shi]
2SG know Zhangsan yesterday do-PST what thing

=b. ni zhidao [Zhangsan zuotian zuole shenme shi](ma)?.
2SG know Zhangsan yesterday do-PST what thing MA
Do you know what Zhangsan did yesterday?

=c. ni zhidao [Zhangsan zuotian zuole shenme shi]
2SG know Zhangsan yesterday do-PST what thing
You know what Zhangsan did yesterday.

The underlying structure of the sentences in (ii) is shown as below.

(iii) a. $[_{CP}$ $[_{IP}$ ni $[_{I'}$I $[_{VP}$ zhidao $[_{CP}$ $[_{IP}$ $[_{I'}$I $[_{IP}$ Zhangsan $[_{VP}$ zuotian zuole shenme shi]]]]]]]]]

c. $[_{CP}$ $[_{IP}$ ni $[_{I'}I_{+Qu}$ $[_{VP}$ zhidao $[_{CP}$ $[_{IP}$ $[_{I'}$I $[_{IP}$ Zhangsan $[_{VP}$ zuotian zuole shenme shi]]]]]]]](ma_{+Qu})]

b. $[_{CP}$ $[_{IP}$ ni $[_{I'}I_{-Qu}$ $[_{VP}$ zhidao $[_{CP}$ $[_{IP}$ $[_{I'}$I $[_{IP}$ Zhangsan $[_{VP}$ zuotian zuole shenme shi]]]]]]]]]

In general, in Chinese, declarative modal particles are not indispensable to declaratives. To put it differently, in most cases, complementizers are covert in Chinese declaratives. As a consequence, (35d) is grammatical.

As (35a-b) shows, the matrix clause is interrogative, and the interrogative modal particle occurs in the embedded clause, which gives rise to ungrammatical constructions. In contrast, if the interrogative modal particle in the embedded clause is deleted, the sentences are grammatical, as (35c-d) illustrates. This testifies that the interrogative modal particle cannot occur in the embedded clause, viz. all the embedded clauses cannot license the overt occurrence of the interrogative modal particle. Why? We argue that all the embedded clauses, including embedded interrogative clauses, have declarative feature, and hence the interrogative feature cannot be licensed. As a consequence, the interrogative modal particle cannot occur in the embedded clauses. The ungrammaticality of (35a) and (35b) and the grammaticality of (35c) and (35d) have testified this point.[15] Furthermore, our inference can be further testified cross-linguistically. In English and German, the formation of the interrogative sentence requires the subject and the auxiliary to be inverted, and the *wh*-question requires *wh*-movement. However, in the embedded clause, the *wh*-question requires *wh*-movement only, and the yes-no question requires the C *whether*. Neither of them requires the subject and the auxiliary to be inverted. Therefore, the order of the interrogative sentence is similar to that of the declarative sentence. In this case, it is more plausible to say that the clause bears declarative feature than to say that the clause bears interrogative feature. That the embedded clause bears declarative feature is due to the fact that the interrogative feature has weakened or been lost. We argue that this is the requirement of all the matrix clauses on the embedded clauses. Thus, the interrogative matrix clause requires the embedded clause to occur as a declarative clause and no interrogative modal particle can occur at the end of the sentence.[16] Whether a complex sentence is interrogative depends upon the matrix clause, regardless of the existence of the modal particle in the em-

15) We agree with an anonymous reviewer on the argument that (35a) is ungrammatical because *ma* is the particle for yes-no question, incompatible with *weishenme* (why).

16) German modal particles can only occur in root contexts. There is a syntactic link between particles and the presence of the projection ForceP. Similarly, Italian modal particles can only occur in root contexts, i.e. in those clauses that display the typical properties of unembedded clauses. The peripheral causal clause can optionally license root phenomena, such as modal particles. In contrast, the causal clause is in the scope of the negation in the matrix clause and thus embedded in it. The subordinate clause cannot license the particle *mica* (Coniglio 2009).

bedded clause. It follows that the matrix clause c-commands the embedded clause, or rather, the modal particle of the matrix clause c-commands that of the embedded clause. The matrix clause and the embedded clause must agree over the interrogative feature.

Similar to interrogative modal particles, imperative and exclamatory modal particles cannot occur in the embedded clause, regardless of the type of the matrix clause. This suggests that imperative and exclamatory modal particles are subject to the same syntactic constraints as interrogative modal particles. The ungrammaticality of imperative sentences in (36) is due to the occurrence of imperative modal particles. On the contrary, if the modal particles are omitted, the sentences are grammatical, as illustrated in (36).

(36) a. *mama jianyi [women qu jiaoyou ba]
mother suggest 1PL go outing BA

b. *mother jianyi [nimen bie qu jiaoyou le]
mother suggest 2PL not go outing LE

c. *laoshi dingzhu [nimen yao zhuyi anquan a]
teacher urge 2PL must pay-attention safety A

(37) a. mama jianyi [women qu jiaoyou]
mother suggest 1PL go outing
Mother suggested that we go for an outing.

b. mother shuo [nimen bie qu jiaoyou]
mother say 2PL not go outing
Mother suggested that you not go for an outing.

c. laoshi dingzhu [nimen yao zhuyi anquan]
teacher urge 2PL must pay-attention safety
The teacher urged that you must be careful.

The contrast between (36) and (37) shows that the occurrence of imperative modal particles in the embedded clause affects the grammaticality of the sentence. In brief, no imperative modal particle can occur in the embedded clause. Similarly, exclamatory modal particles cannot occur in the embedded clause.

(38) a. *wo keyi xiangxiang [ta duo shenqi a]

2SG can imagine 3SG how vigorous A

b. *wo wufa miaoshu [zhe duo meili ya]
1SG cannot describe this how beautiful YA

c. *ni zhidao [ta de ming zhen ku a]
2SG know 3SG DE fate really bitter A

(39) a. wo keyi xiangxiang [ta duo shenqi]
2SG can imagine 3SG how vigorous

b. wo wufa miaoshu [zhe duo meili]
1SG cannot describe this how beautiful

c. ni zhidao [ta de ming zhen ku]
2SG know 3SG DE fate really bitter

To sum up, interrogative, imperative and exclamatory modal particles cannot occur in the embedded clause, which is c-commanded by the matrix clause. This implies that the mood type of the embedded clause is determined by the matrix clause and hence the former must be in accordance with the latter.

Syntactically, the matrix clause can license modal particles since this type of clause displays root properties or ForceP and hence is endowed with independent illocutionary force.

Interrogative, imperative, and exclamatory modal particles can be adjoined to the CP of the matrix clause only (cf. Coniglio 2008). In contrast, the embedded clause displays no root properties or ForceP, and accordingly it cannot license interrogative, imperative, and exclamatory modal particles. Since modal particles are not part of the speech act of the matrix clause, they have independent illocutionary force. In this case, the structure of the matrix clause and the embedded clause differ with respect to the presence vs. absence of certain projections, i.e. TopP, FocusP and the projection encoding information about the illocutionary force of the clause, viz. ForceP. As illustrated below, while the matrix clause, as well as root clauses, would display all the (intermediate) projections ForceP, TopP and FocusP, the embedded clause would lack them (cf. Haegeman 2002: 159, Coniglio 2008).

(40) a. The matrix clause: Force Top Focus Mood Fin
b. The embedded clause: Mood Fin

As (40a) shows, the CP is the syntactic space comprised between the projections of Force and Fin, encoding illocutionary force and finiteness respectively. Between these two boundaries, there are other discourse-related projections hosting topicalized and focalized elements and modifiers. (Coniglio 2008) We argue that modal particles can occupy such positions as the specifiers of ForceP, TopP, or FocusP. In contrast, in (40b), there are only Mood and Fin, which cannot be occupied by modal particles. As a result, interrogative, imperative, and exclamatory modal particles cannot be licensed in embedded clauses. The presence of the projections ForceP, TopP, or FocusP is crucial in determining the possibility for a clause to license modal particles.

5. The Scope of Modal Particles

In terms of syntax and semantics, Chinese modal particles may be time-related or mood-related. Specifically, *le* is time-related while *ba*, *ne*, *a*, *ma*, and *de* are mood-related. In view of linear order, the former precedes the latter. That is why *le* can co-occur with *ba*, *ne*, *ma*, and *de*, whereas *ba*, *ne*, *a*, *ma*, and *de* cannot co-occur. Because *ba*, *ne*, *a*, *ma*, and *de* occupy the same position and hence repel each other. That is, *ba*, *ne*, *a*, *ma*, and *de* cannot co-occur in a sentence. *Le* can co-occur with *ba*, *ne*, *a*, *ma*, and *de* and precedes the latter, which suggests that *le* occupies a lower position in the syntactic hierarchy of modal particles. Functioning VP-internally, it takes scope over the VP and represents the temporal and order of the predicate. In contrast, *ba*, *ne*, *a*, *ma*, and *de* occupy a higher position in the syntactic hierarchy. They take scope over the IP as well as the entire speech act, but they are not part of the propositional content of that speech act (cf. Hansen 1998). Furthermore, they take scope over the whole proposition (and not over single constituents). They scope even out of the IP, thus displaying strong links to the left clausal periphery. This connection with the CP is testified by two other properties, viz. their dependency on the type of clause they occur in and the illocutionary effects they can have. Syntactically, there is a close link between modal

particles and the left periphery, since clause typing is generally assumed to take place in the CP-layer. Modal particles should be considered maximal projections in the specifier position of functional projections. Nevertheless, they are degenerated elements unable to project a full-fledged structure as in the case of adverbs. The clausal IP domain is constituted by a fixed sequence of functional projections hierarchically ordered. They are elements syntactically related to the IP (cf. Coniglio 2008).

We argue that declarative modal particles can co-occur with interrogative, imperative, and exclamatory modal particles. In terms of linear order, declarative modal particles precede interrogative, imperative, and exclamatory modal particles. With respect to their relation to the IP, declarative modal particles are more deeply embedded than interrogative, imperative, and exclamatory modal particles, which occupy a more peripheral position. Imperative modal particles are more peripheral than interrogative modal particles, and exclamatory modal particles are more peripheral than imperative modal particles.

Interrogative, imperative, and exclamatory modal particles are not compatible with each other, whereas they are compatible with declarative modal particles. Since *le*, *ne*, *ma*, and *a* are typical of declaratives, interrogatives, imperatives, and exclamations are arranged hierarchically, it can be inferred that the four types of sentences are arranged hierarchically. Declaratives are the basis on which other sentence types are generated. Hence they precede all the other three types. Accordingly, the order between declarative, interrogative, imperative, and exclamatory modal particles as well as their syntactic hierarchy is shown as follows:

(41) a. The Hierarchy of Modal Types
declarative > interrogative > imperative > exclamatory
b. The Syntactic Hierarchy
$[_{CP}[_{IP}[_{IP}[_{IP}[_{IP}[_{VP}$[V NP]declarative]interrogative]imperative] exclamatory]]]

As (41) shows, declarative modal particles are followed by interrogative modal particles which are followed by imperative modal particles which are followed by exclamatory modal particles. The order is fixed and cannot be reversed. In terms of the syntactic hierarchy,

declarative modal particles are closest to the VP, which shows that this type of modal particles are characteristic of temporality and hence can modify the VP. They and the VP form TP. Interrogative modal particles are adjoined to declarative modal particles, which shows that this type of modal particles are characteristic of focus and can occur in the matrix clause only. Imperative modal particles are adjoined to interrogative modal particles, which shows that this type of modal particles are characteristic of degree and can occur in the matrix clause only. Exclamatory modal particles are adjoined to imperative modal particles, which shows that this type of modal particles are characteristic of emotion and can occur in the matrix clause only. Modal particles of this type are far from the VP and occupy the edge of the IP.

If we examine (41) further, we find that the more leftward the modal particle is, the less subjective it is. In contrast, the more rightward the modal particle is, the more subjective it is. It follows that the hierarchy of modal types and the syntactic hierarchy of modal particles correspond to the hierarchy of abstractness and the hierarchy of subjectivity.

(42) a. The Hierarchy of Abstractness
declarative < interrogative < imperative < exclamatory
b. The Hierarchy of Subjectivity
declarative < interrogative < imperative < exclamatory

Furthermore, there is correlation between the degree of grammaticalization of modal particles and the complexity of sentence structure. Among the four categories, declaratives are the simplest type of sentence. They are composed of IP and declarative modal particles, which occur overtly or covertly. Interrogatives are more complex than declaratives. They are composed of a declarative IP and interrogative modal particles. Both declarative and interrogative modal particles occur overtly or covertly. Imperatives are composed of a declarative IP and imperative modal particles. Both declarative modal particles and the subject cannot occur overtly. As for exclamations, they are composed of a declarative IP and exclamatory modal particles. Declarative modal particles do not occur overtly. The subject occurs overtly or covertly. And adverbs of degree are indispensable. Obviously, the more leftward a modal particle is, the more complex it is, and vice versa. The

more abstract a modal particle, the more constraints it receives, and vice versa. Hence though interrogative, imperative, and exclamatory modal particles can occur in the matrix clause, they tend to be deleted in the embedded clause.[17)]

6. Conclusion

This paper discusses the syntactic status, distribution and constraints on generation of modal particles in the framework of generative grammar. It is claimed that modal particles vary from each other in terms of syntactic distribution, but they have similar syntactic functions and syntactic generation positions. We argue that modal particles enter the syntactic structure in different positions because of their different positions in the syntactic hierarchy. Declarative sentences are the basis on which other types of sentences are generated. To put it differently, other types of sentences are generated by adding various modal particles to declarative sentences. Based on the syntactic hierarchy, we propose the Constraints on Merger/Co-occurrence of Modal Particles. No merger or co-occurrence can cross over more than one bounding node in a step, where bounding nodes are CP and IP. Similarly, modal particles cannot be merged unless there is asymmetrical c-command between them. Hence the order of modal particles cannot be reversed. We argue that the distribution and word order of the modal particles occurring at the end of the sentence are subject to the double constraints of the Principle of Locality and the Principle of Prominence. Prominence corresponds to topicality, and locality corresponds to focus. Obviously, there is asymmetry between locality and prominence. The locality and prominence of modal particles are determined by their positions in the syntactic hierarchy. We also argue that the mood type of the embedded clause is determined by the matrix clause and hence the former must be in accordance with the latter. Syntactically, the matrix clause can license modal particles since this type of clause displays root properties or ForceP and

17) It must be pointed that the syntactic position of modal particles decides the type of modal particles but not vice versa because the types of modal particles are determined by the following factors: 1) syntactic distribution, viz. syntactic position of modal particles; 2) syntactic and combinatory functions.

hence is endowed with independent illocutionary force. Interrogative, imperative, and exclamatory modal particles can be adjoined to the CP of the matrix clause only. In contrast, the embedded clause displays no root properties or ForceP, and accordingly it cannot license interrogative, imperative, and exclamatory modal particles. Obviously the presence of the projections ForceP, TopP, or FocusP is crucial in determining the possibility for a clause to license modal particles. We also argue that the Hierarchy of Modal Types and the Syntactic Hierarchy of Modal Particles correspond to the Hierarchy of Abstractness and the Hierarchy of Subjectivity. Furthermore, there is correlation between the degree of grammaticalization of modal particles and the complexity of sentence structure. It must be stressed that the approach proposed in the paper has been testified cross-linguistically, which proves to be universal.

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