Taiwan Journals of Linguistics
Vol. 10.1, 69-114, 2012
doi:10.6519/TJL.2012.10(1).2

INVESTIGATING THE SYNTAX OF POSTVERBAL MODALS IN HAKKA*

Jui-Yi Zoey Chung
National Tsing Hua University

ABSTRACT

This paper presents a syntactic account for the odd distribution of the postverbal modal element, *tet*, in Sixian Hakka, an SVO language in which a modal auxiliary precedes the main verb. Inspired by the cartographic approach (Cinque 1999, Rizzi 1997), I propose that the modal element *tet* patterns with regular modals in being syntactically higher than the VP, and the surface form is derived to satisfy the morphonological requirement of *tet* via either Move (of V-raising) or Merge (with the light verb *zo* 'do'). Three types of *tet* sentences show the spectrum of modality across functional projections (Tsai 2010). Furthermore, the present analysis can explain the asymmetries of the three types of *tet* in the passivization and disposal construals as well as the interaction with certain adverbials. Finally, I compare *tet* with Cantonese *dak* (Cheng and Sybesma 2004), to achieve a broader cross-dialectal perspective. This analysis provides a better understanding of the mapping between syntax and semantics.

Key words: comparative syntax, cartography, postverbal modal, Hakka

*I wish to express my sincere gratitude to a number of people for their input and constructive comments. Special thanks to Wei-Tien Dylan Tsai, Chen-Sheng Luther Liu, Chinfa Lien, Chung-Yu Barry Yang, and Cheng-Yu Edwin Tsai for their help in discussion. I am also indebted to two anonymous reviewers for valuable suggestions to clarify several main points in this paper. Finally, I want to take this opportunity to express my gratitude to my parents and other five informants for their help. This research is partially funded by the National Science Council of Taiwan (NSC 98-2411-H-007-051-MY3). All errors in this article remain my responsibility.

1. INTRODUCTION

In Sixian Hakka, an SVO language, the occurrence of modal elements is generally preverbal. However, one exception is found in the case of the modal element *tet*, which must follow the main verb. The contrast of (1) and (2) shows that the epistemic modal *in-koi* 'might' in (1a) and the deontic modal *oi* 'must' in (1b) both precede the main verb, while *tet* in (2a-c) appears postverbally[1].

(1) a. 昨晡日應該落了雨。

co-bu-ngid	**in-koi**	[$_{vP}$	log-e	yi.]	(Epistemic)
yesterday	might		fall-ASP	rain[2]	

'It might have rained yesterday.'

b. 阿明愛去學校

Amin	**oi**	[$_{vP}$	hi	hog-gau.]	(Deontic)
Amin	need		go	school	

'Amin must go to school.'

[1] The Hakka data presented in the paper comes from field investigation. The Chinese characters and the transcription are rendered according to the Taiwan Sixian Hakka Romanization System proclaimed by the Ministry of Education in 2007.

[2] The abbreviations used in this paper are as follows:
ASP: Aspect marker, RES: Resultative marker ,CL: Classifier marker, ACHI: Achievement marker, ORD: Ordinaliser, Q: Question particle, NEG: Negation marker, PART: Particle, GEN: Generative marker, DISP: Disposal marker, PASS: passive marker, Mod: Modal; Modif: Modifier; DEO: deontic modal, DYN: dynamic modal. '-' indicates that the following is an affix.

(2) a. 阿明食得落五碗飯。 (Dynamic: potential)
Amin siid-***tet***-log ng-von fan.
Amin eat- TET- RES five-CL rice
'Amin can [will manage to] eat five bowls of rice.'

b. 阿明食得五碗飯。 (Deontic: permission)
Amin siid-***tet*** ng-von fan.
Amin eat- TET five-CL rice
'Amin can [is permitted to] eat five bowls of rice.

c. 阿明作得食五碗飯。 (Deontic: permission)
Amin zo-**tet** siid ng-von fan.
Amin do- TET eat five- CL rice
'Amin can [is permitted to] eat five bowls of rice.'

The modal *tet* denotes either potential or permission in three types of sentences. In the first type, illustrated in (2a), *tet* stands between the verb *siid* 'eat' and a resultative element *log* expressing a potential reading. In the second and third types, shown in (2b-c), the deontic *tet* conveys a permission meaning either by following the main verb or by following the light verb *zo* 'do'. In addition, the "V-*tet*" pattern is also observed in Dongshi Hakka with certain modal interpretations (Chiang 2007).

Empirically, the surface form of the postverbal modal *tet* not only raises a language-internal divergence from the normal Mod^0-V^0 sequence, but also poses a considerable problem as it seems to be a piece of evidence counter to the Universal Base Hypothesis proposed by Cinque (1999) which states that that clausal architecture is predetermined to follow a universal ordering, like the one in (3).

(3) Mood Evaluative > Mood Evidentials > Mod Epistemic> Tense > Mood Irrealis > Deontic > Alethic > Root > ASP > VP
(V-O languages)

In this paper, we will discuss the properties of the postverbal modal *tet* and propose that *tet* is still syntactically higher than VP**,** akin to other modal elements in Sixian Hakka, although *tet* as an inflectional affix in nature requires a verbal host. The postverbal modal constrictions are, in this perspective, attributed to the morphological requirement of *tet*, which can be satisfied by two strategies: *Move* (as an instance of

V^0-to-Mod^0 movement) and *Merge* (with a light verb *zo* 'do').The two deontic alternates, V-*tet* and *zotet*-V, are semantically parallel to each other, but behave differently in their interaction with other scopal operators. The asymmetries between these two alternates thus originate from their different derivations.

This paper is organized as follows: Section 2 discusses the syntactic properties and configurations of this postverbal modal *tet* with respect to the following: (i) despite the surface order, the deontic *tet* is syntactically above *v*P, while the dynamic *tet* sits between *v*P and VP (ii) postverbal modal constructions are derived from Head movement or Merge of a light verb driven by the morphological requirement of *tet*; (iii) the asymmetries between these two types of the deontic *tet*, (i.e., V-*tet* and *zo*-*tet*-V), stem from different derivations: Move or Merge. Section 3 briefly reviews Cheng and Sybesma's (2004) analysis for Cantonese *dak*, which is also a postverbal modal element, and then addresses the cross-linguistic comparison of Hailu Hakka, Sixian Hakka and Cantonese. The dialectal variation of Cantonese *dak* and Sixian Hakka *tet* in negative modal sentences can be accounted for by parametrizing the order between phonological merger (PM; Bobaljik 1995, Cheng and Sybesma 2004) and Verb Movement (Tsai and Chung 2010). Furthermore, it will also be shown that the distribution and the acceptability of the postverbal modal construction provide a testing ground for Verb Movements. Section 4 concludes the discussion and refers to some further issues.

2. POSTVERBAL MODAL TET IN SIXIIAN HAKKA

2.1 Some Properties of *tet*

First of all, the lexical meaning of Sixian Hakka *tet* is 'come to have' that is similar to the postverbal modals in other languages such as Cantonese and Lao, Zhuang (Enfield 2003, Sybesma 2008). However, comparing Sixian Hakka in (4) with the other three languages in (5), Sixian Hakka *tet* patterns with Cantonese *dak* (5a) in combining with an achievement suffix before the objects, but with Lao *daj* in (5b) and

Zhuang *ndaej* in (5c), in functioning as a main verb and take the VP complements directly. This contrast suggests the deficiency of *tet*, a remarkable property of *tet*, even though it serves as a verb.

(4) a. 佢得著一百萬。 ***Sixian Hakka***
gi ***tet***-do id-bag-van.
He get-ACHI one million
'He got one million dollars.'

b. * 佢得一百萬。
* gi ***tet*** id-bag-van.
He get one million
Intended meaning: 'He got one million dollars.'

(5) a. keoi *dak*-dou sap fan. ***Cantonese***
3s get- SUCC ten point
'He got a ten points.' (Sybesma 2008: 230)

b. kuu *daj* cot-maaj toon sip moong saw. ***Lao***
1s get letter time ten o'clock morning
'I got a/the letter at ten o'clock in the morning.' (Enfield 2003:102)

c. De *ndaej* daih-it mingz ha? ***Zhuang***
3s get ORD- one place Q?
'Does he become first?' (Sybesma 2008: 229)

Second, when *tet* functions as a modal, it is phonologically neutral and cannot bear stress as what we see in preverbal modals. As in the contrast in (6), the modal *ingoi* 'should' in (6a) can be stressed, while *tet* in (6b) cannot.[3]

[3] The stressed element is indicated in capitals.

(6) a. 阿明應該駛車仔，阿興毋應該。
Amin **INGOI** sii ca-e, Ahin m **INGOI**.
Amin should drive car Ahin NEG should
'Amin should drive, but Ahin should not.'

b. * 阿明駛得車仔，阿興駛毋得。
* Amin sii-**TET** ca-e, Ahin sii-m-**TET.**
Amin drive-TET car Ahin drive-NEG-TET
Intended meaning:
'Amin can [=is permitted to] drive, but Ahin cannot.'

Third, the short-form answers also indicate the defective nature of *tet*. As the contrast in (7) and (8) shows, if the question contains a canonical.

Preverbal modal such as *voi* 'can,' we can answer *voi lim* 'can drink' (i.e., modal plus the main verb), or just with the dynamic modal *voi* 'can'. By contrast, to answer a question in (8) where V-*tet* is used, only *lim-tet* 'drink-*tet'* is an acceptable answer to (8A), not just *tet* alone.

(7) A: 阿明會啉酒無？
Amin **voi** lim jiu ga?
Amin can drinkwine Q
'Can Amin drink wine?' ***(alcohol?)***

B: (阿明)會啉/會。
(Amin) **voi** lim/voi
(Amin) can drink/ can
'(Yes, Amin) can drink'

(8) A: 阿明啉得酒無？
Amin lim-***tet*** jiu ga?
Amin drink- TET wine Q
'Can Amin drink wine? ***(alcohol?)***

B: (阿明)啉得/*得。
(Amin) lim-***tet***. /*tet
(Amin) drink-TET / TET
'(Yes, Amin) can drink'

The list in (9) presents the crucial property of *tet*, that is, that it must attach to the right a [+V] base. (9b-d) are all impossible phrases, because nouns and adjectives cannot satisfy the [+V] requirement of the modal *tet*.

(9) a. V-***tet***: 食得siid-*tet* 'eat- TET', 去得hi-*tet* 'go- TET',
看得kon-*tet* 'look- TET'
b. * *tet*-V: *得食 *tet*-siid 'TET -eat', *得啉 *tet* -lim 'TET -drink',
*得寫 *tet*-sia 'TET -write'
c. * N-tet: *書得 su-*tet* 'book- TET',* 獎得 jiong- *tet* 'prize- TET'
d. * Adj-tet: *高得 go-*tet* 'tall-TET',*靚得 jiang-*tet* 'beautiful- TET'

To explain the defective nature of *tet*, we should consider two options: *tet* as a clitic or *tet* as an affix. One way to differentiate clitics from affixes is posited by Zwicky and Pullum (1983: 503-504), as shown in (10):

(10) *Clitics* can exhibit a low degree of selection with respect to their hosts, while *affixes* exhibit a *high* degree of selection with respect to their stems.

The data in (9) suggest that *tet* should be analyzed as an affix according to (10). Another criterion is drawn from Radford (2004) in that a clitic can attach to phrases, whereas an affix attaches to a word stem. As exemplified in (11), the sentence is illicit if *tet* attaches to a verb phrase. This fact further supports the view that *tet* is an affix.

(11) a. 阿明去得台北。
Amin hi-***tet*** taipei.
Amin go- TET Taipei
'Amin can [is permitted to] go to Taipei.
b. * 阿明看電影得。
* Amin kan tien-iang ***tet***.
Amin look movies TET
Intended: 'Amin can [is permitted to] go to the movies.'

Interestingly, the postverbal modal *tet* shows the monosyllabic requirement akin to that of *ngaang* in Cantonese respects the same requirement (Tang 2003). Basically, *tet* can attach to either intransitive verbs or transitive verbs if the verb is monosyllabic. In contrast, if the verb contains more one syllable, the sentence becomes illicit. The contrast is shown in (12) and (13):

(12) a. 阿明來得。
Amin loi-***tet***.
Amin come- TET
'Amin can [is permitted to] come.'

b. 阿明買得車仔。
Amin mai-***tet*** ca-e.
Amin buy- TET car- PART
'Amin can [is permitted to] buy a car.'

(13) a. * 阿明嗷汁得。
* Amin gieu.ziib-***tet***.
Amin cry- TET
Intended meaning: 'Amin can [is permitted to] cry.'

b. * 阿明調查得該件事件。
* Amin tiau.ca- ***tet*** ge-kien sii-kien.
Amin investigate- TET that-CL matter
Intended meaning: 'Amin can [is permitted to] investigate that matter.'

These pieces of evidence given above show that the modal *tet* is a bound form and that it requires a [+V] host which must be monosyllabic**.** These interactions between phonology and morphology with respect to the deficiency of *tet* (including the monosyllabic requirement of the [+V] base) play an important role in the syntax, which is the primary issue in the next section.

2.2 Three Types of *tet*-Constructions

To account for the deontic-dynamic ambiguity of the modal *tet*, I propose that it receives different functions and interpretations depending

on their syntactic positions. First, the specific subject in (14) must precede the dynamic modal, whereas the nonspecific subject in (15) can follow the deontic modal.

(14) a. 有三個人敢來。
iu *sam-me-ngin* **gam** loi. (Subj> **Mod**$^{\textbf{dynamic}}$ > VP)
Have three-CL-person dare to come
'Three (non/specific) people dare to come.'

b. * 敢有三個人來。
* **gam** *iu* *sam-me-ngin* loi. (*__Mod__$^{\textbf{dynamic}}$ > Subj> VP)
dare to have three-CL-person come
Intended meaning: 'Three (non/specific) people dare to come.'

(15) a. 有三個人愛來。
iu *sam-me-ngin* **oi** loi.(Subj > **Mod**$^{\textbf{deontic}}$ > VP)
Have three- CL –person must come
'Three (specific) people must come.

b. 愛有三個人來。
oi *iu* *sam-e-ngin* loi. (**Mod**$^{\textbf{deontic}}$ > Subj > VP)
must have three- CL –person come
'There must be three (nonspecific) people coming.'

According to the Subject Specificity in modal constructions (Tsai 2001 for Chinese), the dynamic modal is located between *v*P and VP, and the deontic modal higher *v*P as illustrated in (16):

(16) [$_{TP}$ (Subj^{specific}) [$_{ModP}$ **Mod**$^{\textbf{deontic}}$ [$_{vP}$ (Subj^{nonspecific}) v^0 [$_{ModP}$ **Mod**$^{\textbf{dynamic}}$ [$_{VP}$ V]]]]]

Following the cartographic approach (Rizzi 1997, Cinque 1999, Tsai 2010)**,** functional projections are merged in a rigidly ordered hierarchy but differ in the syntactic operations they admit, as is the case with Hakka modals. Apparently violating the Universal Based Hypothesis, the postverbal modal *tet* still respects the syntactic hierarchy in (16). The morphological requirement of the dynamic *tet* in (17) is satisfied by the cyclic verb movements, but the deontic *tet* in (18) has two options which are the verb movement in V-*tet* and the merge of *zo* 'do' in *zotet*-V.

(17) 阿明食得落五碗飯。

Amin	siid -***tet***-log	ng-von	fan.	(Dynamic *tet*)
Amin	eat- TET-RES	five-CL	rice	

'Amin can [will manage to] eat five bowls of rice.'

(18) a. 阿明食得五碗飯。

Amin	siid-***tet***	ng-von	fan.	(Deontic *tet*)
Amin	eat- TET	five- CL	rice	

b. 阿明作得食五碗飯。

Amin	***zo-tet***- siid	ng-von	fan.	(Deontic *tet*)
Amin	do- TET-eat	five- CL	rice	

'Amin can [is permitted to] eat five bowls of rice. '

Before articulating the syntax of *tet* modal constructions, let us consider the status of *zo* in (18b) with respect to whether or not *zo* can be regarded as a light verb akin to those in Mandarin Chinese (Huang 1997, Lin 2001, Tsai 2007). The syntax-semantics mismatch in (19) and 0) can help us to figure out the answer to this question. The mismatch between the duration phrase and the object in (19a) is due to the main verb *kon* 'read' adjoining to a light verb head "DO" as **s**hown in (19b)[4].

(19) a. 佢看了五日个書。

gi	kon-ne	ng-ngid-e	su.
he	read -ASP	five-days- GEN	book

'He has been reading books for five days.'

b. he [$_{AspP}$ ASP [$_{vP}$ read$_i$- $\boldsymbol{v}\,\phi^{\mathbf{DO}}$ five-days-GEN [$_{VP}$ t_i book]]

[4] It seems that only the overt light verb *zo* 'do' can serve as the verbal host of deontic *tet*, although Sixian Hakka does have other overt light verbs such as *iung* 'use' and *tung* 'cause.' Besides, we assume that Hakka uses the same morpheme to 'lexicalize' the gerundive DO and to support TET-modal sentence.

(20) a. 你作你食/行。

ng	**zo**	ng	siid/hang.
you	do	you	eat/walk

'You just eat/walk (your part)'
[Lit: 'You do your eating/walking.']

b. you [$_{vP}$ ***v* zo**$^{\mathbf{Do}}$ you [$_{VP}$ eat/walk.]]

On the other hand, 0) shows that the light verb can be overtly realized as *zo* 'do' and that there is no need for further verb raising. For now, it is reasonable to assume that Sixian Hakka indeed has light verb constructions, and that *zo* 'do' can be viewed as an explicit counterpart of "DO" like that in (19b).

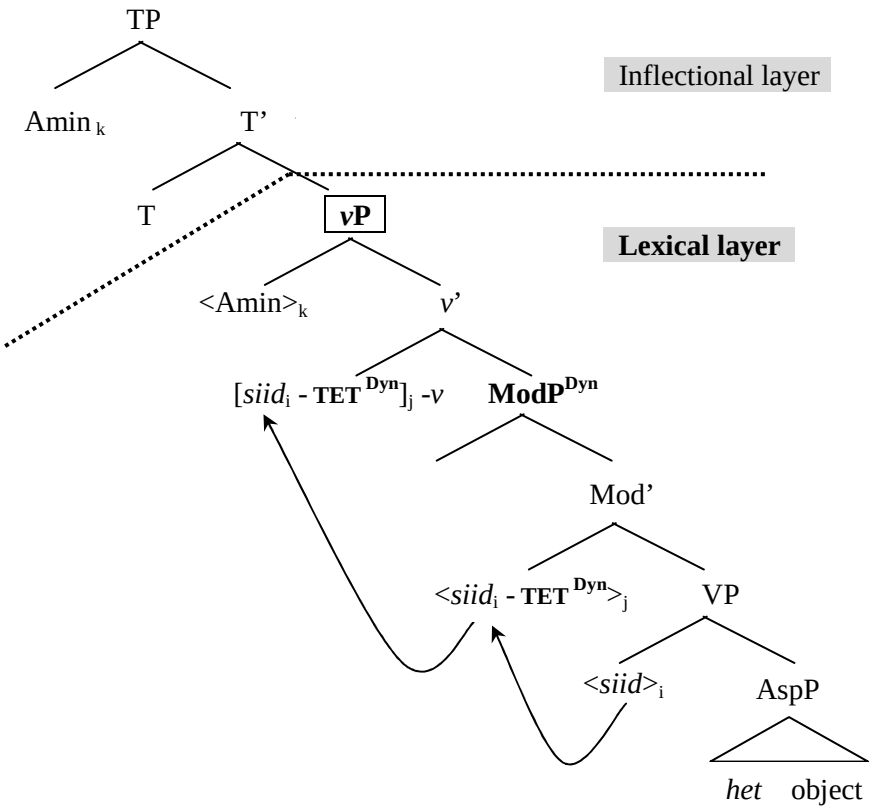
Let us return to the three types of *tet* modal constructions and their syntactic structures. The first type is the dynamic *tet* in (17) articulated as (21) below. This type of sentence is characterized by a result-denoting word such as *log*, and *tet***,** denoting the agent's potential/ ability**,** heads the dynamic modal phrase (ModP^{Dyn}) between *v*P and VP. Since *tet* needs a verbal host, the verb *siid* 'eat' is attracted and undergoes cyclic movements to form *siid-tet* 'eat-TET' and then all together rise to the light verb head[5].

[5] Cinque (2006) claims that functional projections above the 'lexical' core of the clause, V(P), and any cross-linguistic word order differences are a consequence of different types of leftward movements of V(P). We follow Cinque and further assume that when the light verb head is realized as *zo* 'do,' the dynamic *tet* is stuck inside its projection, and the sentence is illicit.

(i) *

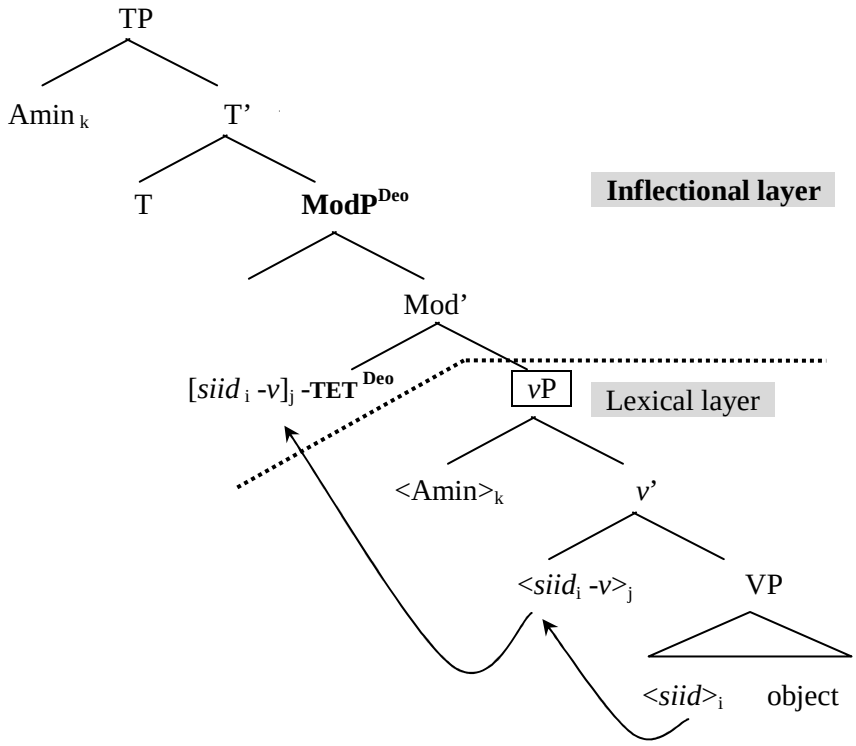
Amin	[*v*P	zo	[ModP	tet [VP	siid-het	ng-von	fan.
Amin		do		TET	eat- asp	five- cl	rice

(21) ***tet*^{Dyn} :V^0-to-Mod^{Dyn0}-to-*v*^{0} movements** = (17)



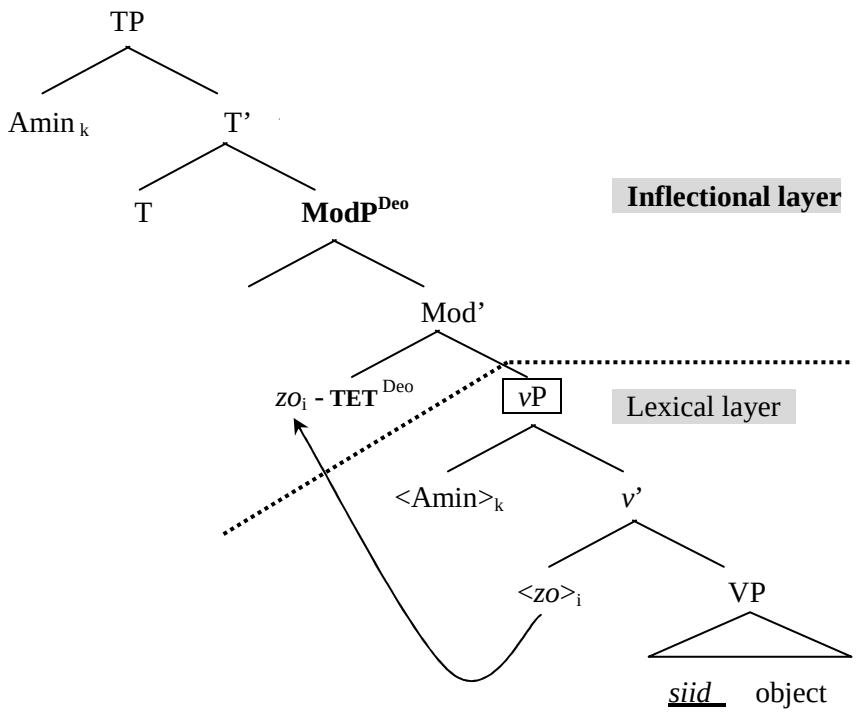
The second type, V-*tet*, in (18a) interpreted as permissive is derived as the tree structure in 0). *Tet* is base-generated at the head of the deontic modal phrase (ModP^{Deo}) right above *v*P, and in this case, since the modal position is different, what undergo movements are also different, that is V^0-to-*v*^{0} and then *v*^{0}-to-Modal^0.

(22) ***tet*$^{\textbf{Deo}}$:** V^0-to-*v*^{0}-to-Mod$^{\text{Deo0}}$ movements → V-*tet* =(18a)



Finally, the structure of the third type of *tet*-sentences in (18b), characterized by the light verb *zo* 'do,' is sketched as 0). Crucially, since *zo* 'do' is a lexical counterpart of a light verb with its inherent [+V] feature, it is *zo* that serves as the host of *tet* through the *v*^{0} (*zo)*-to-Mod^0 movement. Consequently, owing to this movement, the verb remains *in-situ* and *tet* occurs in a more 'regular-like' preverbal position.

(23) ***tet*$^{\textbf{Deo}}$: v^0-to-Mod^{Deo0}** movements → *zotet*-V = (18b)



If the analysis above is on the right track, the distinction between the deontic *tet* and the dynamic *tet* with respect to their possible verbal hosts can be predicted straightforwardly by the syntactic hierarchy. For the dynamic *tet* base-generated below *v*P as shown in (21), the only choice is the main verb, but by contrast, for the deontic *tet* in 0) and 0) located in the inflectional layer, *tet* can take either the main verb or the lexical light verb *zo* as its host giving two alternates –V-*tet* and *zotet*-V in turn[6].

6 It seems that to express the meaning of 'ought to be' the light verb is tended to be overtly realized, and if it remains covert, we have the V-*tet* with 'ought to do' interpretation.

Before leaving the three types of postverbal modal *tet* in Sixian Hakka, it seems reasonable to conclude that: (i) with respect to the postverbal modal *tet* and other preverbal modals, the preverbal ones represent the lexical types, and the postverbal ones belong to the affixal types requiring further syntactic operations; (ii) from a comparative perspective, the postverbal modal *tet* also can be viewed as evidence for *Analyticity* (Huang 2004, 2005) which is the most remarkable property of Mandarin Chinese, and also for the topography of modals (Tsai 2010).

2.3 Merge vs. Move: the Asymmetries between *zotet*-V and V-*tet*

This section will focus on two alternates of deontic *tet*, (i.e., *zotet*-V and V-*tet*). Concerning their similarity in respect to the interpretation and the syntactic dimensions, they are predicted to be parallel to each other. Unexpectedly, systematical asymmetries occur between *zotet*-V and V-*tet* in the passivization and in the disposal sentences.

The example (24) presents some basic facts of the passive and disposal construals in Sixian Hakka. The passive sentence (24b) is constructed by the passive marker *bun*, and the disposal sentences (24c) by the disposal marker *jiong*. (Luo 1985, He 1991, Lai 2001). We follow the analysis of Huang (1997, 1999) and assume that the passive marker *bun* and the disposal marker *jiong* in Sixian Hakka, similar to *bei* and *ba* in Mandarin Chinese, are basically generated at the head of *v*P.

(24) a. 阿明食忒這碗飯了。 ***Declarative***
Amin siid-hed ia-von fan ne.
Amin eat-ASP this- CL rice PART
'Amin ate this bowl of rice.'

b. 這碗飯分阿明食忒了。 ***Passive***[7]
ia-von fan [$_{v'}$ **bun** [$_{vP}$ Amin siid-hed ted.]]
this- CL rice PASS Amin eat- ASP PART
'This bowl of rice was eaten by Amin.'

[7] The complement of *bun* and *jiong* is *v*P, slightly different from Huang analysis. However, the main insight is retained - (i) the Chinese passivization and disposal are not the A-movement, (ii) the [*bun* +NP]/[*jiong*+NP] are not a constituent (PP).

c. 阿明將這碗飯食碗了。 ***Disposal***

Amin	[$_{v'}$	**jiong**	[$_{v}$P ia-von	fan	siid-hed	ted.]]
Amin		DISP	this- CL	rice	eat-ASP	PART

'Amin ate this bowl of rice.'

First, consider the cases in the normal preverbal modal, for example, the deontic modal *oi* 'must' in (25a). *Oi*, as a deontic modal, is syntactically above *v*P, and as a result, *oi* precedes the passive *bun* phrase as well as the disposal *jiong* phrase as shown in (25b) and (25c), respectively.

(25) a. 阿明愛食這碗飯。 ***Declarative***

Amin	**oi**	*siid*	ia-von	fan.
Amin	must	eat	this- CL	rice

'Amin must eat this bowl of rice.'

b. 這碗飯愛分阿明食。 ***Passive***

Ia-von	fan	**oi**	[$_{v}$P	*bun*	Amin	siid.]
this-CL	rice	must		PASS	Amin	eat

'This bowl of rice must be eaten by Amin.'

c. 阿明愛將這碗飯食忒。 ***Disposal***

Amin	**oi**	[$_{v}$P	*jiong*	ia-von	fan	siid-hed.]
Amin	must		DISP	this- CL	rice	eat- ASP

'Amin must eat this bowl of rice.'

The problem is that (26) and (27) show a contrast between the deontic *zotet*-V and V-*tet*. The deontic *zotet*-V**,** just like *oi* in (24), takes a *v*P as its complement headed by the passive *bun* and disposal *jiong*. So we have *zotet bun Amin siid* 'can be eaten by Amin' in (26a), and *zotet jiong ia-von-fan siid-het* 'can take this bowl of rice to eat' in (27a). However, (26b) and (27b) suggest that V-*tet* cannot accommodate *bun* or *jiong* no matter in which order

(26) ***Passive***

a. 這碗飯作得分阿明食。 ***zo-tet*-V:ok**

Ia-von	fan	**zo-tet**	*bun*	Amin	siid.
this- CL	rice	do- TET	PASS	Amin	eat

'This bowl of rice can [=is permitted to] be eaten by Amin.'

b. * 這碗飯食得分阿明。 ***V-tet*:***

* Ia-von fan **siid-tet** *bun* Amin.
this- CL rice eat-TET PASS Amin
Intended meaning:
'This bowl of rice can [=is permitted to] be eaten by Amin.'

b'. * 這碗飯分食得阿明。

* Ia-von fan *bun* **siid-tet** Amin.
this- CL rice PASS eat-TET Amin
Intended meaning:
'This bowl of rice can [=is permitted to] be eaten by Amin.'

(27) ***Disposal***

a. 阿明作得將一碗飯食了。 ***zo-tet*-V:ok**

Amin	**zo-tet**	*jiong*	ia-von	fan	siid	hed.
Amin	do- TET	DISP	this-CL	rice	eat	ASP

'Amin can [=is permitted to] eat this bowl of rice.'

b. * 阿明食得將這碗飯。 ***V-tet*:***

* Amin **siid-tet** *jiong* ia-von fan.
Amin eat-TET DISP this-CL rice
Intended meaning:
'Amin can [=is permitted to] eat this bowl of rice.'

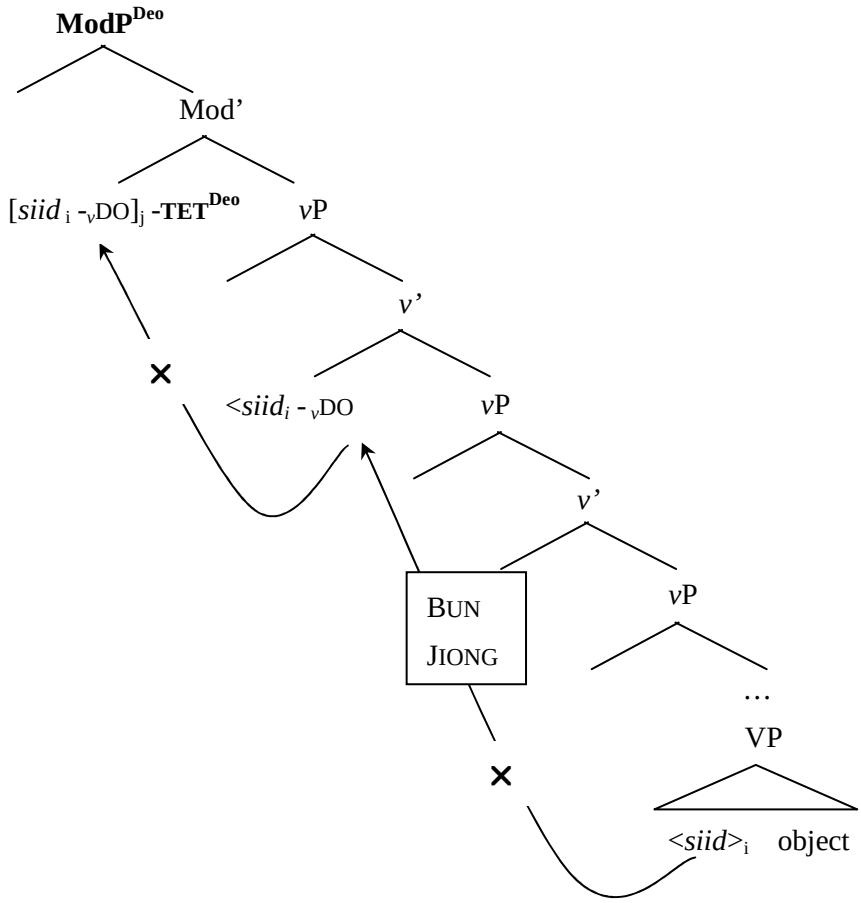
b'. * 阿明將食得這碗飯。

* Amin *jiong* **siid-tet** ia-von fan.
Amin JIONG eat-TET this-CL rice
Intended meaning:
'Amin can [=is permitted to] eat this bowl of rice.'

This discrepancy between V-*tet* and *zotet*-V seems to be only apparent as a result of the fact that the movements involved here are different. More specifically, the deontic V-*tet* and *zotet*-V demonstrate two strategies to fulfill the morphological requirement of *tet*, namely *Move* (of V^0-to-Mod^0 movement) and *Merge* (with the lexical light verb *zo* 'do'), respectively. As the configuration virtualized in (28a), V-*tet*,

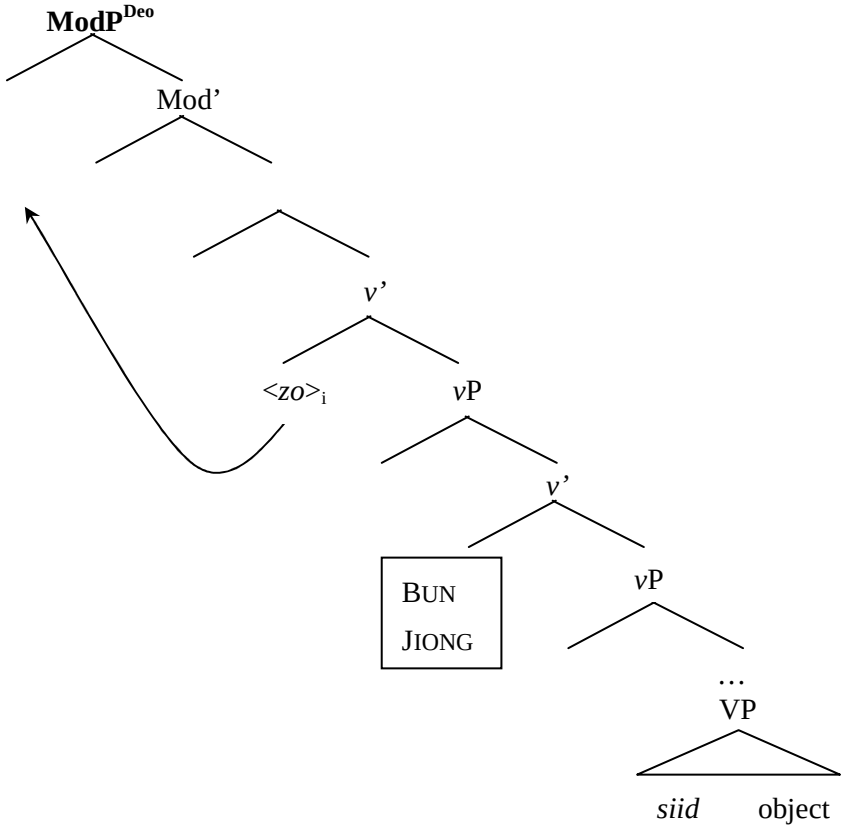
which is derived from cyclic verb head movements (i.e., V^0-to-v^0-to-$Modal^0$), must respect the locality constraint (Relativized Minimality, Rizzi 1990, 2002), strictly as a compound so that any intervener, such as *bun* or *jiong* is banned.

(28) **V-*tet***: V^0-to-v^0-to-Mod^{Deo0} movement is blocked = (26b) and (27b)



On the other hand, *zotet*-V derived from the shorter v^0-to-Mod^0 movement is free from this restriction, since the lexical light verb *zo* 'do' sits higher than these two potential blockers, as the structure in (29) below:

(29) ***zo-tet*-V**: v^0-to-Mod^{deo0} movement is completed

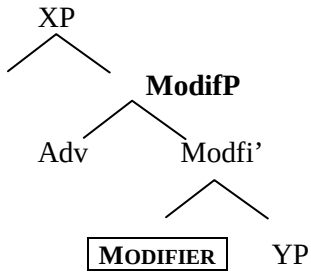


Things become more interesting when the *tet*-modal constructions meet other scopal-taking elements such as adverbs, both assumed to be merged in the rigidly ordered hierarchy under the cartographic approach and the Functional Specifier analysis (Cinque 1999, 2006, Rizzi 2004a).

From this perspective, adverbs correspond to the relative ordering in the *Universal Base Hypothesis* in (30) are syntactically merged at the specifier position of a functional projection (Rizzi 2004a labels this head as '*Modifier Phrase*') in (31).

(30) [$\text{Mood}_{\text{Speech act}}$ [$\textbf{Mood}_{\textbf{evaluative}}$ [$\text{Mood}_{\text{evidential}}$… [$\text{Aspect}_{\text{proximative}}$
[$\textbf{Aspect}_{\textbf{duration}}$. [$\text{Aspect}_{\text{generic…}}$ (simplified version)

(31) ***Modifier Phrase*** (Rizzi 2004a, Cinque 2006)



First, (32) and (33) show the most clear-up contrast among the evaluative adverb construals. Adopting the adverb taxonomy of Ernst (2002), evaluative adverbs are speaker-oriented located at the complementizer layer (Haumann 2007). Therefore, these three types of *tet* must occur after the adverb *ginien* 'unexpectedly' simply because the evaluative adverbs are the CP-level modifiers.

(32) **TET** > ***Evaluative Adverbial***

a. * 阿明食得落竟然牛肉麵。

* Amin	**siid-tet-log**	*ginien*	ngiu-ngiug mien.
Amin	eat- TET-RES	unexpectedly	beef-noodle

Intended: 'Unexpectedly, Amin can [will manage to] eat the beef noodles.'

b. * 阿明作得竟然食牛肉麵。

* Amin	**zo-tet**	*ginien*	siid	ngiu-ngiug mien.
Amin	do- TET	unexpectedly	eat	beef-noodle

Intended: 'Unexpectedly, Amin can [=is permitted to] eat the beef noodles**.**

c. * 阿明食得竟然牛肉麵。

* Amin	**siid-tet**	*ginien*	ngiu-ngiug mien.
Amin	eat- TET	unexpectedly	beef-noodle

Intended: 'Unexpectedly, Amin can [=is permitted to] eat the beef noodles.'

(33) ***Evaluative Adverbial*** > **TET**

a. 阿明竟然食得落牛肉麵。

Amin	*ginien*	**siid-tet-log**	ngiu-ngiug mien.
Amin	unexpectedly	eat- TET-RES	beef-noodle

'Unexpectedly, Amin can [will manage to] eat beef-noodles.'

b. 阿明竟然作得食牛肉麵。

Amin	*ginien*	**zo-tet**	siid	ngiu-ngiug mien.
Amin	unexpectedly	do- TET	eat	beef-noodle

'Unexpectedly, Amin can [is permitted to] eat beef-noodles.'

c. 阿明竟然食得牛肉麵。

Amin	*ginien*	**siid-tet**	ngiu-ngiug mien.
Amin	unexpectedly	eat- TET	beef-noodle

'Unexpectedly, Amin can [is permitted to] eat beef-noodles.'

Further remarkable interactions occur in the case of manner adverbs, namely VP-level modifiers (Cinque 1999, Ernst 2002). Let us consider the cases of *zotet* and V-*tet*-R first as exemplified by (34) and (35) in turn. The relative ordering is still under our prediction that

manner adverbs precede the dynamic V-*tet*-R but follow the deontic *zotet*-V.

(34) **TET > *Manner Adverbial***

a. * 阿明食得落慢慢地這碗飯。

* Amin	**siid-tet-log**	*manman-e*	ia-von	fan.
Amin	eat- TET-RES	slowly	this-CL	rice

Intended meaning : ‘Amin can [will manage to] eat this bowl of rice slowly.’

b. 阿明作得慢慢地食這碗飯。

Amin	**zo-tet**	*manman-e*	siid	ia-von	fan.
Amin	do- TET	slowly	eat	this-CL	rice

‘Amin can [is permitted to] eat this bowl of rice slowly.

(35) ***Manner Adverbial* > TET**

a. 阿明慢慢地食得落這碗飯。

Amin	*manman-e*	**siid-tet-log**	ia-von	fan.
Amin	slowly	eat- TET-RES	this-CL	rice

‘Amin can [will manage to] eat this bowl of rice slowly.’

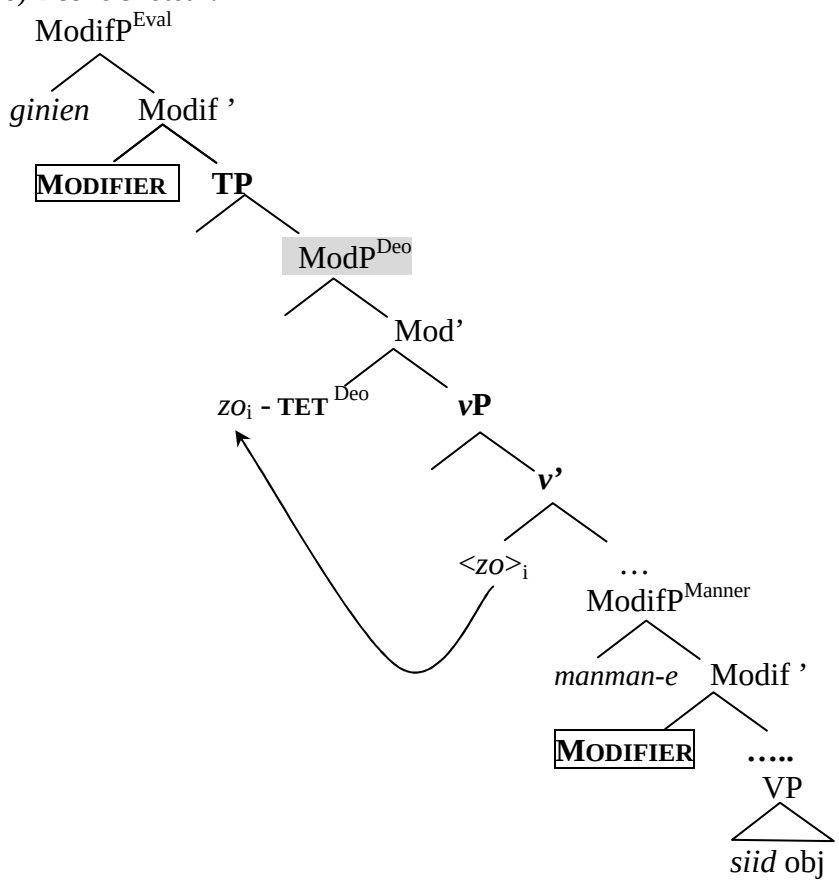
b. * 阿明慢慢地作得食這碗飯。

* Amin	*manman-e*	**zo-tet**	siid	ia-von	fan.
Amin	slowly	do- TET	eat	this-CL	rice

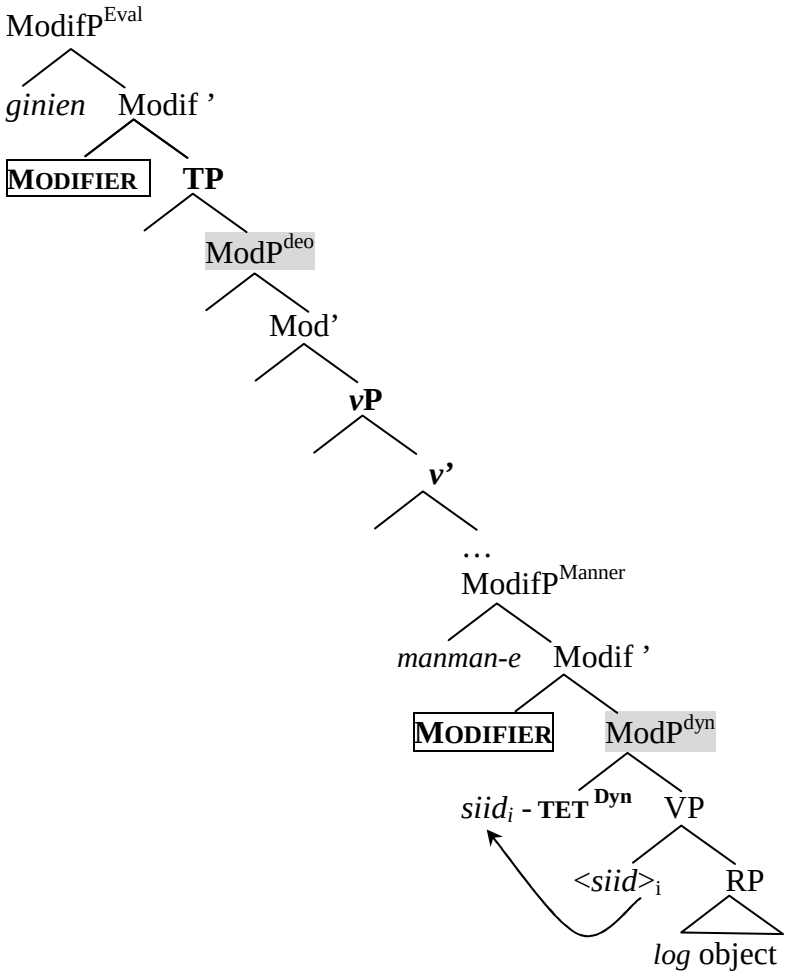
Intended meaning:
‘Amin can [is permitted to] eat this bowl of rice slowly.’

This linear relation is mediated by their syntactic hierarchy straightforwardly. The manner adverbial as a landmark helps to pin down the topography of the modal *tet* in which the dynamic *tet* in V-*tet*-R is located between *v*P and VP, while the deontic *tet* in *zotet* is above *v*P, as illustrated in (36) and (37), respectively:

(36) **Deontic *zotet*-V**



(37) **Dynamic V-*tet*-R**



However, the case of the deontic V-*tet* in (38) poses a challenge to our analysis, since the sentence is still illicit even though the manner adverbial occurs after the deontic V-*tet*, which presumably should be the grammatical sequence.

(38) a. * 阿明食得慢慢地這碗飯。

* Amin	**siid-tet**	*manman-e*	ia-von	fan.
Amin	eat -TET	slowly	this-CL	rice

Intended meaning:
'Amin can [is permitted to] eat this bowl of rice slowly.'

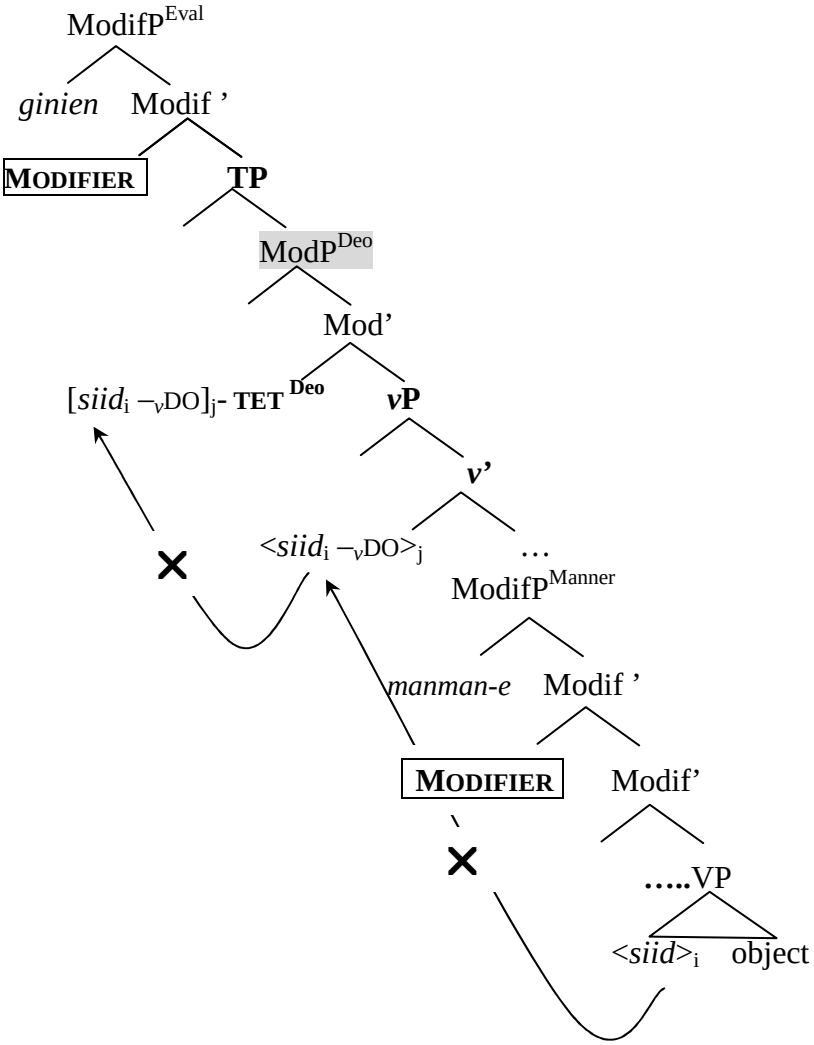
b. * 阿明慢慢地食得這碗飯。

* Amin	*manman-e*	**siid-tet**	ia-von	fan.
Amin	slowly	eat -TET	this-CL	rice

Intended meaning:
'Amin can [is permitted to] eat this bowl of rice slowly.'

To account for the ungrammaticality in (38), we follow the *substitution* analysis which states that the head movement is a morphological incorporation subject for syntactic checking under Agree (Henk van Riemsdijk 1998, Gaterner 2002), and such operation is found in the case of the head movements involved in *tet* modal construals. In the deontic V-*tet* alternate, the head movements (i.e.,V^0-to-v^0-Mod^0 movements) are interrupted by this functional head MODIFIER which heads the manner adverb, because the MODIFIER is not a verbal class which the verb can move into the space occupied by it and substitute for it. Thus, the derivation in 0) fails.

(39) **Deontic V-*tet***



For now, to sum up, our analysis has two major factors that must be considered to capture the grammaticality of the modal *tet* in the *v*P-periphery. (i) *Rigid ordering*: based on the rigid order of functional heads under the cartographic approach (Cinque 1999, Belletti 2004,

Rizzi 2004a, Tsai 2010), most of the relative ordering can be predicated straightforwardly; (ii) *cyclic movements*: the modal *tet* construals involving head movements driven by the morphonological requirement are a target of the blocking effect (Beck 2006, Yang 2009) and must respect the locality constraint (Relativized Minimality, Rizzi 1990, 2002).

3. CROSS-DIALECTAL COMPARISON: HAKKA TET AND CANTONESE DAK

In this section, we will deal with postverbal modals from a comparative perspective and focus on Hakka, including Sixian Hakka and Hailu Hakka, and Cantonese, in which all modals occur before VP with the exception of a postverbal 'can'. Previous studies (e.g., Simpson 2003, Enfield 2003 and Sybesma 2008) also note that languages with postverbal modals are mainly spoken in East and Southern Asia, such as Thai, Lao and Zhuang, as shown in 0a) to 0c), respectively. They all have a postverbal modal which means 'to be able to/ can', in contrast to other regular modals in the preverbal position. Furthermore, different from the Hakka *tet* and Cantonese *dak*, the instances of postverbal CAN which appear in East and Southern Asia languages all occur sentence-finally. In this paper, we would like to keep this question open for further research and focus on Hakka and Cantonese first.

(40) a. khaw khian ***dai***. ***Thai***
he write can
'He can write.'

a' Daeng *aat-ca/doog* maa.
Daeng may/ must come
'Daeng may/must come.' (Simpson 2000: 90)

b. laaw vaw phaasaa laaw ***daj***. ***Lao***
3s speak language Lao can
'S/he can speak Lao.'

b' laaw *jaak* khaa kaj.
S/he want kill chicken
'S/he wants to kill a chicken.' (Enfield 2003: 102)

c. De gangj vah Yeznanz ***Zhuang***
3s speak language Vietnamese
hix ***ndaej.***
also can
'He can also speak Vietnamese.' (Sybesma 2008: 246)

c'. Gou *siengj* youq neix ninz haj haemh.
1s want at here sleep five evening
'I would like to sleep here for five nights. ' (Qin 1995: 3)

3.1 Postverbal Modal *dak* 'can' in Cantonese

Similar to the Hakka postverbal modal *tet*, Cantonese *dak* also can express permission or potential meanings as exemplified in (41) in turn. In (41a), *dak* follows the verb and is interpreted as the permissive modal, while in (41b), *dak* denotes the potential reading if a result-denoting element, such as *hei* 'up**',** is involved. Cheng and Sybesma (2004) argue that *dak* acquires different meanings depending on its syntactic positions. The two positions of *dak* are schematized as (42): if *dak* occurs at the $Modal_1P$ in (42a) right above VP, it denotes the permissive reading, and if it occurs below VP at the $Modal_2P$ as in (42a), it denotes the potential meaning.

(41) a. keoi zaa-**dak** li-ga ce. (Permission)
3s drive-DAK this- CL car
's/he can [is permitted to] drive this car'

b. keoi lo-**dak**-hei li-seung syu. (Potential)
3s take-DAK-up this-box book
's/he can [will manage to] lift this box of books'

(Cheng and Sybesma 2004: 420)

(42) ***Cheng & Sybesma's* proposal**
Two types of postverbal modal constructions

a. **Mod1P:PERMISSION**
[IP [Mod1P **Mod1=DAK** [VP V object]]]

b **Mod2P: POTENTIAL**
[IP [VP [ModP (SC) **Mod2=DAK** [AspP [XP (Result)]]]]]

Given the structure in (42), the syntactic derivations for (41a) and (41b) are demonstrated as (43). In the permissive sentence as in (43a), the verb undergoes Verb-to-Modal raising triggered by the Agree requirement between the verb and the head of IP (I^0). On the other hand, in (43b), there is a Result-to-Aspect movement in the potential sentence, and immediately after the movement, the "phonological merger" (PM; Bobaljik 1995) applies to the verb, *dak* and the aspect, so that the verb cannot further raise to $Modal_1$ where it would receive the deontic reading.

(43) a. **Permissive *dak* :** V-to-Mod_1 movement
[IP I^0 [Modal1P $drive_i$ - DAK $_{Permission}$ [VP t_i this car

b. **Potential *dak***: Result-to-Asp mvt and then PM

[IP I^0 [VP take [Modal2P **DAK$_{Potential}$** [AspP up_i [XP this box of books
t_i

(ii) PM

(i) Result-to-Asp mvt

Under their analysis, the morpho-syntactic properties of *dak* are crucial to the postverbal modal constructions which were also observed in the discussion of Hakka *tet* in Section 2.2. In short, the postverbal modals such as Cantonese *dak* along with Hakka *tet* provide an ideal comparative perspective with which to view the interaction between morphology and syntax.

3.2 Negative Modal Constructions: Sixian Hakka and Cantonese

This section will deal with the dialectal comparison between Sixian Hakka and Cantonese, especially with respect to the deontic V-*tet*/*dak* in negative sentences. The examples 0) versus (45) and (46) show an asymmetry between the declarative sentences on the one hand, and the negative sentences on the other. Despite the parallelism in the declarative sentences in 0), the word order in the negative sentence represents a mirror image between the negative marker and the verb. As the contrast shows in (45) and (46), the negative marker in Cantonese must precede the 'V-Modal' complex, while the negative marker in Hakka lies between the verb and the modal *tet.*

(44) **Declarative Modal Construction: V-Modal**

a.	keoi	***zaa*-*dak***	li-ga	ce.	***Cantonese***
	3s	drive-DAK	this- CL	car	
	'S/he can drive this car.'				
b.	佢啉得這款酒。				
	gi	***lim*-*tet***	ia-kuan	jiu.	***Sixian Hakka***
	3s	drink-TET	this-kind	wine	
	'S/he can drink this kind of wine.'				

(45) **Negative Modal Construction in Cantonese: Neg^0-V^0-Mod^0**

a.	keoi	**m**-*zaa-dak*	li-ga	ce.
	3s	NEG -drive-DAK	this- CL	car
	'S/he cannot drive this car.'			
b. *	keoi	*zaa*-**m**-*dak*	li-ga	ce.
	3s	drive- NEG-DAK	this- CL	car
	Intended meaning: 'S/he cannot drive this car.'			

(Cheng and Sybesma 2004: 422)

(46) **Negative Modal Construction in Sixian Hakka: V^0-Neg^0-Mod^0**

a. 佢啉毋得這款酒。
gi *lim-**m**-tet* ia-kuan jiu.
3s drink-NEG-TET this-kind wine
'S/he cannot drink this kind of wine.'

b. * 佢毋啉得這款酒。
* gi **m**-*lim-tet* ia-kuan jiu.
3s NEG -drink-TET this-kind wine
Intended meaning: 'S/he cannot drink this kind of wine.'

The contrast is summarized in the Table (47), and seems to challenge the cartographic approach which claims that the functional projections should be merged in the same order cross-linguistically.

(47)

Deontic *V^0-Mod^0*	**Declarative**	**Negative**
Sixian Hakka	lim-tet (*V-tet)*	lim-**m**-tet **(*V-Neg-tet)***
Cantonese	zaa-dak (*V-dak)*	**m**-zaa-dak **(*Neg-V-dak)***

As other apparent counter-examples that indicate the rigid order is obscured by the subsequent syntactic operations**,** this dialectal variation between Cantonese and Sixian Hakka represents differences in the sequencing of two operations—the *phonological merger* (PM, Bobaljik 1995, Cheng and Sybesma 2004) and the verb-to-modal movement triggered by the morphonological requirement of *tet/dak* stated as (48a) and (48b)**,** respectively:

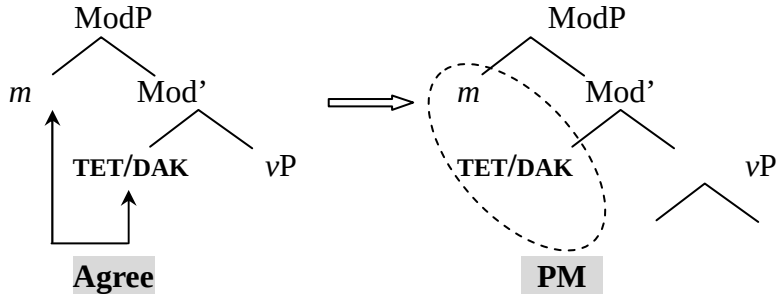
(48) a. **Phonological Merger**(**PM**)
Phonological Merger is preceded by Agree.

b. **V^0-to-Mod^0 (head-) movement (V^0-Mod^0 mvt):**
V^0-to-Mod^0 (head-) movement is due to the morphonological requirement[8]

[8] We follow Boeckx and Stjepanović's (2001) and Chomsky's (2001) claim that head movement is a PF phenomenon. Since PM and V-Mmvt both apply in the PF, there is no problem at the derivation level.

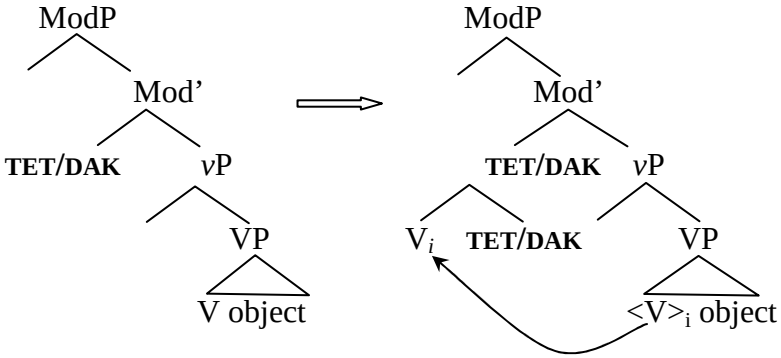
The PM in 0) applies to the negative marker and the modal head after the Agree relation is established. Crucially, once PM applies, this part indicated by a circle is no longer accessible to further syntactic operations.

(49)



The second operation, namely the V^0-to-Mod^0 movement, is demonstrated in (50). The properties of *tet* and *dak* discussed in previous sections lead to the conclusion that they are affixal modals requiring a host. Therefore, a verb is attracted and then attaches to *dak/tet* so as to satisfy the morphonological requirement of *dak/tet.*

(50)

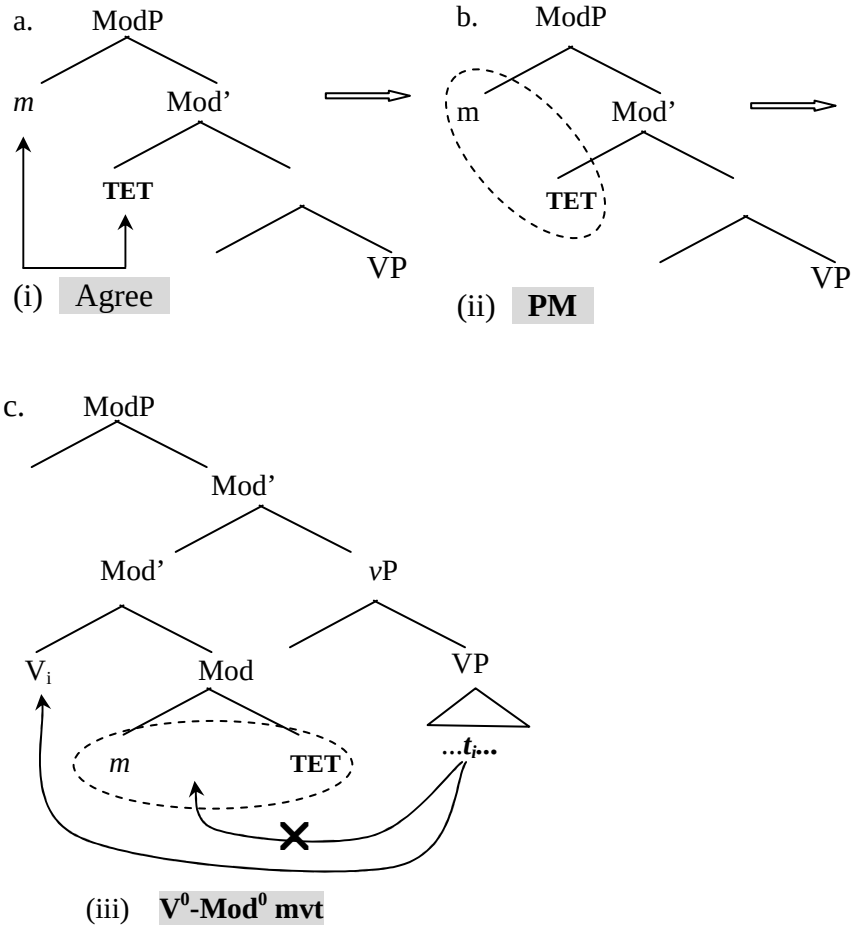


The variation in the negative modal construction between the Cantonese pattern in (45) and the Sixian Hakka pattern in (46) can be accounted for by parametrizing the ordering of PM and V^0-Mod^0 movement (Tsai and Chung 2010).

CASE I: PMg > V^0-Mod^0mvt:
The Sixian Hakka Negative *tet*-Pattern 'V-NEG-MOD'

If the PM precedes the V^0-Mod^0mvt, the syntactic operations are as shown in (51). After Agree is established between the negative marker and the modal head, the PM applies and these parts become opaque to any further syntactic operations including movements. As a result, the verb involved in the V^0-Mod^0mvt is forced to adjoin to a higher position which is the complex 'Neg^0-Mod^0' rather than attach to *tet* directly. So the derived surface order is 'V^0-Neg^0-Mod^0', as that in Sixian Hakka.

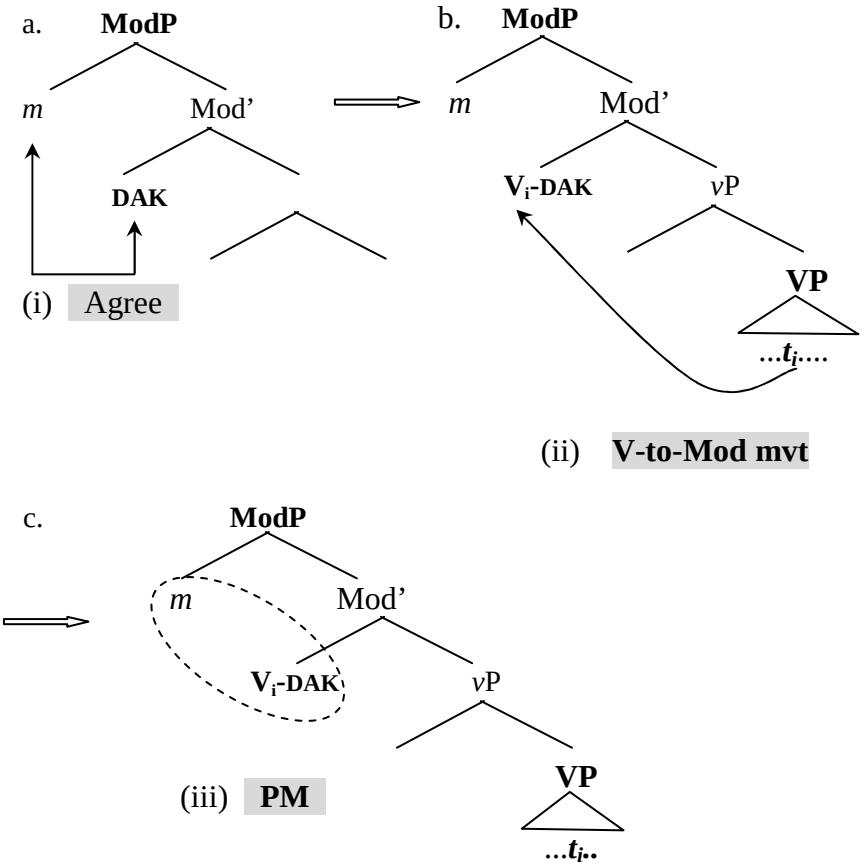
(51)


a.
ModP
m
Mod'
TET
VP
(i) Agree
b.
ModP
m
Mod'
TET
VP
(ii) PM
c.
ModP
Mod'
Mod'
vP
V_i
Mod
VP
m
TET
...t_i...
(iii) V⁰-Mod⁰ mvt

CASE II: V^0-Mod^0mvt > PMg:
The Cantonese Negative *dak*-Pattern 'NEG -V-MOD'

On the other hand, another possibility is attested in Cantonese, illustrated in (52). Crucially, the V^0-M^0mvt applies first, that is the verb rises and attaches to *dak*, and then follows the PM. So in this case the domain that undergoes PM involves the negative marker *m* and the complex 'V^0-Mod^0', resulting in the second order 'Neg^0-V^0-Mod^0' which is the pattern in Cantonese.

(52)



So far, the dialectal variation in the table (47) just apparently contradicts our analysis, and further supports the basic claim of the cartographic approach which argues that the organization of the functional projections is structurally consistent and that the word-order difference is a consequence of later operations. With this perspective, the syntactic operations that leads to the dialectal variation in the negative deontic sentences between Cantonese and Sixian Hakka is the ordering of two operations PM and V^0-M^0mvt.

3.3 The Postverbal Modals and Verb Movements

Typological studies usually provide a comparative perspective to build up a big picture of certain issues. The final section of this paper will deal with a cross-linguistic comparison of the postverbal modals in three dialects, namely Hailu Hakka, Sixian Hakka and Cantonese[9].

As the patterns in (53) below show, postverbal modals are acceptable in these three dialects. In contrast, the postverbal modal in Hailu Hakka "tends" to follow the light verb rather than the main verb, and Cantonese gives us an opposite type in which all of the realizations are V-*dak* forms showing that the modal occurs after the main verb rather than the light verb. Sixian Hakka further represents a third type containing both the Hailu Hakka type and the Cantonese type (i.e., v^0–Mod^0-V^0 and V^0-Mod^0).

[9] This cross-linguistic comparison is addressed here in a descriptive manner first as a preliminary to further research.

(53) **Deontic Modal Constructions**

Deontic	***V-Mod^0***		***v-Mod^0-V***	
	Declarative	Negative	Declarative	Negative
Hailu HK		shid-m-tet (*V-Neg-tet)*	zo-tet- shid (*v- tet-V)*	zo-m-tet- shid (*v-Neg-tet-V)*
Sixian HK	siid-tet (*V-tet)*	siid-m-tet (*V-Neg-tet)*	zo-tet- siid (*v- tet-V)*	zo-m-tet- siid (*v-Neg-tet-V)*
Cantonese	zaa-dak (*V-dak)*	m-zaa-dak (*Neg-V-dak)*		

Compared with the asymmetries in the deontic modals, the dynamic modals in (54) show a systematic parallelism. The modal lies between the verb and the resultative marker in the declarative sentences, while it is replaced by the negative marker in the negative sentences.

(54) **Dynamic Modal construction**

Dynamic	***V-Mod^0-R***	
	Declarative	Negative
Hailu HK	shid-tet-het (*V-**tet**-R)*	shid-m-het (*V-**Neg**-R)*
Sixian HK	siid-tet-log (*V-**tet**-R)*	siid-m-log (*V-**Neg**-R)*
Cantonese	lo-dak-hei (*V-**dak**-R)*	lo-m-R (*V-**Neg**-R)*

The cross-linguistic comparison in (53) and (54) poses two questions: First, the contrast between deontic modals and dynamic modals is not only language internal but also cross-linguistic**.** Second, what is the

factor that leads to the 'gradual' distribution of the deontic modal in Hailu Hakka, Sixian Hakka and Cantonese?

Following the cartographic approach which assumes that languages share the same hierarchy of function heads, cross-linguistic parallelism is, therefore, a desirable consequence. The distribution is in perfect correspondence to the syntactic hierarchy in showing deontic modals in the inflectional layer and dynamic modals in the lexical layer. As for the negative dynamic sentences, we suggest that the negative element *m* 'not' serves as the negative counterpart of the dynamic modal. Therefore, the dynamic modal is substituted for by this negative morpheme in the negative sentences. Such patterns illustrated in (54) might be an example of the *suppletion strategy* (de Haan 2005).

The second question about the distribution of the deontic modals in these three dialects seems associated with verb movements in the target languages. The lexical verb in Cantonese is the second "active" which can move far from its basic position (Tang 2002, 2006). Thanks to the productive verb movement, the surface forms are all 'V^0-$Mod^{0'}$ in Cantonese. In contrast, if a language, such as Mandarin Chinese (Huang 1997, 2006, Tsai 2007) or Hakka, has explicit light verbs which can undergo the verb movement, the light verb is the more efficient candidate when the postverbal modal is searching for its verbal host, since the movement is shorter under the economic consideration of the Minimal Link Condition stated as in (55). As the result, Hailu Hakka has 'v^0-Mod^0' (i.e., *zo-tet*) mostly.

(55) ***Minimal Link Condition***

α can raise to target K only if there is no legitimate operation Move β targeting K, where β is closer to K.

(Chomsky 1995: 296)

What if the verb movement of the lexical verbs and that of the light verbs are both 'active' according to Tang's term? Such is the case in Sixian Hakka in which the deontic modal *tet* has two possible hosts giving the alternates, namely V-*tet* (V^0-Mod^0) and *zotet*-V (v^0-tet^0-Mod^0).[10] If our analysis is on the right track, we can associate

[10] How to verify that light verbs in these two Hakka sub-dialects differ according to

the gradual distribution of postverbal modals in Sixian Hakka, Hailu Hakka and Cantonese with the discrete activity of verb movements and with the economy principle. The cross-dialectal comparison discussed in Section 3.3 is summarized as follows:

First, the cross-linguistic variations confirm the main point of Principles and Parameters (Chomsky and Lasnik 1993) in that the distribution of the deontic modals in the three dialects of Sixian Hakka, Hailu Hakka and Cantonese may be attributed to the activity of the verb movement parameterized language-internally. Second, in the postverbal constructions, we have seen parallelism in the lexical layer, in the case of the dynamic types, and divergence in the inflectional layer, in the case of the deontic types. Hence, the postverbal modal constructions offer an empirical argument in favor of the cartographic approach in that it is able to address dimension in a systematic and detailed way of the complex specification of positions corresponded to different interpretations.

4. CONCLUSION AND REMARKS

The conclusions to be drawn from the discussion in the preceding sections about the syntax of postverbal modals in Sixian Hakka are as follows:

(i) The syntactic hierarchy of the modal *tet* is illustrated in (56): *tet* is located above *v*P if it is interpreted as a deontic modal and it sits between *v*P and VP if it serves as a dynamic modal.

(56)
[$_{TP}$(Subj^{specif})[ModP ***tet*** $^{\textbf{deontic}}$ **[*v*P**(Subj$^{non\text{-}specif}$) v^0 [ModP ***tet*** $^{\textbf{dynamic}}$ **[VP** V]]]]

PERMISSION **POTENTIAL**

their degree of ‘activity’ will be left for future research.

(ii) Sixian Hakka resorts to *Move* (as an instance of V^0-to-Mod^0 movement) and *Merge* (with a light verb *zo* 'do') to satisfy the morphonological requirement of *tet*, which leads to the postverbal modal constructions.

(iii) The two strategies, *Move* and *Merge*, result in the asymmetries between deontic *zo*-*tet*-V and V-*tet*, since the latter derived from *Move* is sensitive to the locality constraint.

(iv) The dialectal variation between Cantonese *dak* and Hakka *tet* in negative modal sentences is due to a different sequencing of two operations—the Phonological Merger and the Verb Movement.

REFERENCES

Boeckx, Cedric and Sandra Stjepanović. 2001. Heading toward PF. *Linguistic Inquiry* 32:345-355.

Boskovic, Zeljko and Howard Lasnik. 2003. On the Distribution of Null Complementizers. *Linguistic Inquiry* 34:527-546.

Beck, Sigrid. 2006. Intervention effects follow from focus interpretation. *Natural Language Semantics* 12:1-56.

Bellert, Irena. 1977. On Semantic and Distributional Properties of Sentential Adverbs. *Linguistic Inquiry* 8:337-351.

Belleti, Adriana. 2004. *Structures and Beyond. The Cartography of Syntactic Structures, vol.3.* Oxford: Oxford University Press.

Bobaljik, Jonathan David. 1995. *Morphosyntax: The syntax of verbal inflection*. Ph.d Dissertation, MIT.

Butler, Jonny. 2003. A Minimalist Treatment of Modality. *Lingua* 113:967-996.

Cheng, Lai-Shen Lisa and Sybesma, Rint. 2004. Postverbal 'can' in Cantonese (and Hakka) and Agree. *Lingua* 114:419-445.

Chiang, Min-hua. 2007. A preliminary survey of verb complement constructions in Dongshi Hakka. *Journal of Chinese Linguistics* 35.2:25-66.

Chiang, Shu-Mei. 2009. *Event conception and argument realizations of Hakka potential complement constructions: Integration of cognitive-constructional models*. Ph.d Dissertation, Taipei: National Chengchi University.

Chomsky, Noam and Howard Lasnik. 1993. Principles and parameters theory. *Syntax: An International Handbook of Contemporary Research*, ed. by Joachim Jacobs, Arnim von Stechow, Wolfgang Sternefeld, and Theo Vennemann, 506-569. de Gruyter. Berlin.

Chomsky, Noam. 1995. *The Minimalist Program.* Cambridge, MA: MIT Press.

Chomsky, Noam. 2001. Derivation by Phase. *Ken Hale: A Life in Language*, ed. by Michael Kenstowicz, 1-52. Cambridge, MA: MIT Press.

Cinque, Guglielmo. 1999. *Adverbs and Functional Heads*, Oxford: Oxford University Press.

Cinque, Guglielmo. 2005. Deriving Greenberg's Universal 20 and its Exceptions. *Linguistic Inquiry* 36:315-332.

Cinque, Guglielmo. 2006. *Restructuring and functional heads*. Oxford studies in comparative syntax: The cartography of syntactic structures. Oxford and New York: Oxford University Press.

Cinque, Guglielmo and Luigi Rizzi. 2008. The Cartography of Syntactic Structures. *STiL – Studies in Linguistics CISCL Working Papers* 1. 2:42-58, 2008.

De Haan, Ferdinand. 2005a. Encoding speaker perspective: Evidentials. *Linguistic Diversity and Language Theories*, ed. by Zygmunt Frajzyngier, Adam Hodges and David S. Rood, 379-397. Amsterdam: John Benjamins.

De Haan, Ferdinand. 2005b. Semantic Distinctions of Evidentiality. *The World Atlas of Language Structures*, ed. by Martin Haspelmath, Matthew S. Dryer, David Gil, and Bernard Comrie, 314-317. Oxford: Oxford University Press.

De Haan, Ferdinand. 2005c. Coding of Evidentiality. *The World Atlas of Language Structures*, ed. by Martin Haspelmath, Matthew S. Dryer, David Gil, and Bernard Comrie, 318-321. Oxford: Oxford University Press.

Ernst, Thomas. 2002. *The Syntax of Adjuncts*. Cambridge: Cambridge University Press.

Enfield, N.J. 2003. *Linguistic epidemiology. Semantics and grammar in mainland South-East Asia*. London: Routledge.

Gärtner, Hans-Martin. 2002. *Generalized transformations and beyond: Reflections on minimalist syntax*. Berlin: Akademie-Verlag.

He, Gang-Yong. 1991. Kejia fangyan yufa yanjiu. Xiamen University Press.

Haumann, Dagmar. 2007. Adverb Licensing and Clause Structure in English. *Journal of Linguistics*: 238-243.

Henk van Riemsdijk. 1998. Head Movement and Adjacency. *Natural Language and Linguistic Theory* 16, Number 3: 633-679.

Huang, James C.-T. 1988. Wo pao de kuai and Chinese phrase structure. *Language* 64: 274-311.

Huang, James C.-T. 1997. On lexical structure and syntactic projection. *Chinese Languages and Linguistics* 3:45-89.

Huang, James C.-T. 1999. Chinese Passives in Comparative Perspective, *Tsing Hua Journal of Chinese Studies* 29:423-509.

Huang, James C.-T. 2004. Ta de laoshi dang de hao, in Essays Commemorating Professor Lü Shuxiang, published by Chinese Academy of Social Sciences.[〈他的老師當得好〉，《呂叔湘先生百歲誕辰紀念會議論文集》，中國社會出版社出版。]

Huang, James C.-T. 2005. Syntactic Analyticity and the Other End of the Parameter. LSA Course.

Huang, James C.-T. 2006. Resultatives and unaccusatives: a parametric view. *Bulletin of the Chinese Linguistic Society of Japan* 253:1-43.

Huang, James C.-T. 2008. Cong 'tade laoshi dang-de hao' tanqi [On tade laoshi dang-de hao and related problems], *Linguistic Sciences* 7.3: 225-241.

Lai, Huei-ling. 2001. On Hakka BUN: A case of polygrammaticalization. *Language and Linguistics* 2.2:137-153.

Li, Shih-Min. 2008a. The pathway of semantic and morphosyntactic change of det4 (得) in Hakka. Paper presented at the 7th Conference on Language Teaching and Linguistics in Taiwan (第七屆臺灣語言及其教學國際學術研討會).

Li, Shih-Min. 2008b. Variation of X det4 construction in Hakka. Paper presented at the 5th International Conference on Construction Grammar (ICCG-5). University of Texas at Austin, USA.

Lin, Tzong-Hong Jonah. 2001. *Light Verb Syntax and the Theory of Phrase Structure*. Ph.D. Dissertation, University of California, Irvine.

Lee, Hun-Tak Thomas. 1995. Postverbal quantifiers in Cantonese. Ms. The Chinese University of Hong Kong.

Luo, Zhao-Jin. 1985. *The Grammar of Hakka Dialect (Keyu Yufa)*. Taipei: Student Book., Ltd.

Qin Xiaohang. 1995. *Modern Zhuang Language*, Beijing: Publishing House of the Central Institute for Nationalities.

Radford, Andrew. 2004. *Minimalist Syntax: Exploring the Structure of English*. Cambridge: Cambridge University Press.

Rizzi, Luigi. 1990. *Relativized Minimality*. Cambridge, MA: MIT Press.

Rizzi, Luigi. 1997. The Fine Structure of the Left Periphery. In *Elements of Grammar*, ed. by L. Haegeman, 281-338. Dordrecht: Kluwer.

Rizzi, Luigi. 1999. *On the Position "Int(errogative)" in The Left Periphery of the Clause*. Ms. Università di Siena.

Rizzi, Luigi. 2002. *Locality and Left Periphery*. Belletti, A., ed. (2002) Structures and Beyond. The Cartography of Syntactic Structures, vol. 3, *OUP*.

Rizzi, Luigi. 2004a. *On the Form of Chains: Criterial Positions and ECP Effects*. Ms. University of Siena.

Simpson, Andrew. 2001. Focus, presupposition and light predicate raising in East and Southeast Asia. *Journal of East Asian Linguistics* 10(2):89-128.

Simpson, Andrew. 2003. *Functional Structure(s), Form and Interpretation: Perspectives from Asian languages*. Co-edited with A. Li for CurzonRoutledge: London.

Sybesma, Rint. 2008. Zhuang: A Tai language with some Sinitic characteristics. *From linguistic areas to areal linguistics.* 221-274. Amsterdam: John Benjamins.

Tang, Sze-Wing. 2002. Focus and *dak* in Cantonese. *Journal of Chinese Linguistics* 30(2):266-309.

Tang, Sze-Wing. 2003. Properties of *ngaang* and the syntax of verbal particles in Cantonese. *Journal of Chinese Linguistics* 31(2): 245-269.

Tang, Sze-Wing. 2006. A parametric approach to the typology of subtopics in Chinese dialects. *Linguistic Sciences* 5 (6): 3-11. Also reprinted in *Linguistics and Philology*.

Tsai, Wei-Tien Dylan. 2001. On Subject Specificity and Theory of Syntax-Semantics Interface. *Journal of East Asian Linguistics* 10:129-168.

Tsai, Wei-Tien Dylan. 2007. Two types of light verbs in Chinese. Paper presented at IACL-15/NACCL-19, Columbia University, New York City.

Tsai, Wei-Tien. 2008. Tense Anchoring in Chinese. *Lingua* 118: 675-686.

Tsai, Wei-Tien. 2010. Tan hanyu motaici qi fenbu yu quanshi de duiying guanxi, *Zhongguo Yuwen* 3:208-221.[〈談漢語模態詞其分布與詮釋的對應關係〉, 《中國語文》2010 年第 3 期, 208-221.]

Tsai, Cheng-Yu Edwin and Chung, Jui-yi Zoey. 2010. The syntax of modal *tet* in Hakka and some dialectal correlates. Paper presented at the joint meeting of IACL-18 & NACCL-22, Harvard University.

Yang, Chung-Yu Barry. 2009. Two types of intervention effects. Paper presented at the 7th GLOW in Asia, Hyderabad, India.

Zwicky, Arnold M. and Geoffrey K. Pullum. 1983. Cliticization vs. inflection: English n't. *Language* 59:502-13.

Jui-Yi Zoey Chung
Graduate Institute of Linguistics
National Tsinghua University
yi0918@gmail.com

客語動後模態詞句法研究

鍾叡逸
國立清華大學

客語動後模態詞，tet「得」，有別於典型模態句式呈現獨特的動後語序，造成語言內部分歧；同時也引起理論層次的問題，即超乎普遍基底假說(Universal Base Hypothesis, Cinque 1997)的預測。再者就模態性(modality)而論，動後模態句展現了「模態光譜」(the spectrum of modality)，下從辭彙層的能願情態、上致曲折層的義務情態。本文利用製圖理論(Cartographic Approach, Rizzi 1997, Cinque 1999) 探討其句法語義特質，並從比較語法的角度切入，以廣泛了解動後模態現象。動後模態結構一如典型模態句，模態詞組居於動詞組之上，表層的動後語序則是肇因於詞法要求，驅動動詞移位或者輕動詞架接，而這兩者都可以從被動式、處置式和副詞修飾範域等現象得到驗證。本文藉由客語動後模態詞研究配合跨語言比較，補捉模態詞句法語義的對應關係，以及功能詞之間的互動現象。

關鍵字：比較語法；製圖理論；動後模態詞；客語