

# **The privileged status of phases: licensing VP movement and ellipsis in Mandarin and Cantonese**

Tommy Tsz-Ming Lee and Victor Junnan Pan

University of Southern California, The Chinese University of Hong Kong

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## **Abstract**

This paper argues for the privileged status of phases in licensing movement and ellipsis of verb phrases (VPs) in two Chinese varieties, Mandarin and Cantonese. While head licensing is crucial in VP movement and ellipsis, a closer investigation into (pre-verbal) aspectual elements reveals that not all head elements license VP movement and ellipsis. This indicates that head licensing is only a necessary but not sufficient condition. The split observed with aspectual elements calls for a more fine-grained proposal on the licensing conditions of VP movement and ellipsis. Assuming a split aspect analysis and a contextual/dynamic approach to phasehood, we develop an account that assigns a privileged status to phases. Substantially, we argue that the verbal phrases that can undergo VP movement and ellipsis must be a phase in Mandarin and Cantonese. This privileged status of phases is further supported by a number of phenomena in these languages, including the lack of V-stranding VP ellipsis, the lack of (English-style) sluicing, as well as the CP-TP asymmetry in movement and ellipsis.

# Contents

<b>1</b>	<b>Introduction</b>	<b>3</b>
<b>2</b>	<b>When are VP movement and ellipsis possible?</b>	<b>4</b>
2.1	The verb-adverb distinction . . . . .	4
2.2	Aspectual elements . . . . .	8
2.2.1	Perfective and imperfective markers . . . . .	9
2.2.2	Aspectual verbs . . . . .	10
2.3	Interim summary . . . . .	14
<b>3</b>	<b>Analysis</b>	<b>15</b>
3.1	A phases-theoretic framework and assumptions . . . . .	15
3.2	Three ingredients in the proposal . . . . .	16
3.3	Deriving the licensing conditions of VP movement and ellipsis . . . . .	17
3.3.1	Deriving the contrast between Low-Aspect heads and lexical verbs . . . . .	17
3.3.2	Deriving the contrast between Low-Aspect heads and High-Aspect heads . . . . .	19
<b>4</b>	<b>Supporting evidence for the proposal</b>	<b>20</b>
4.1	A split aspect analysis . . . . .	21
4.2	The upper boundary of the clause-internal phase . . . . .	23
4.3	Movement and ellipsis privilege phases . . . . .	26
4.3.1	Contrasting phasal <i>v</i> P with non-phasal VP . . . . .	26
4.3.2	Contrasting phasal CP with non-phasal TP (or the like) . . . . .	28
4.3.3	Against an alternative anti-locality approach to VP movement and ellipsis . . . . .	32
<b>5</b>	<b>Apparent counter-examples</b>	<b>33</b>
5.1	The epistemic restriction and the syntax of epistemic modals . . . . .	33
5.2	Implications on the derivation of right dislocation . . . . .	35
<b>6</b>	<b>Conclusions</b>	<b>38</b>

# 1 Introduction

This paper argues for the privileged status of phases (Chomsky 2000, 2001) in licensing movement and ellipsis of verb(al) phrases (VPs) in two Chinese varieties, Mandarin and Cantonese.<sup>1</sup> While head licensing is crucial in VP movement and ellipsis (e.g., Tsai 2015; Law and Ndayiragije 2017), a closer investigation into (pre-verbal) *aspectual elements* (including (im)perfective markers and aspectual verbs) in Mandarin and Cantonese reveals that not all head elements license VP movement and ellipsis. This indicates that head licensing is only a *necessary* but not a *sufficient* condition. The split observed within aspectual elements calls for a more fine-grained proposal on licensing conditions of VP movement and ellipsis.

Assuming a split aspect analysis (Huang, Li, and Li 2009) and a contextual/dynamic approach to phasehood (Bobaljik and Wurmbrand 2005; Wurmbrand 2013, 2014; Bošković 2014; Harwood 2015), we develop an account that assigns a privileged status to phases. Substantially, we argue that the verbal phrases that can undergo VP movement and ellipsis must be a *phase* in Mandarin and Cantonese. This suggestion is further supported by a number of phenomena in these languages, including the the lack of V-stranding VP ellipsis, the lack of (English-style) sluicing, as well as the the CP-TP asymmetry in movement and ellipsis. As for broader theoretical implications, our proposal lends further support to a contextual/dynamic approach to phasehood, where the boundary of the clause-internal phase is not determined categorically, but displays certain flexibility depending on the syntactic derivation. Additionally, the findings in this paper echoes the suggestion in Harwood (2015) that certain (low) aspect projection has a unique status in setting the upper boundary of the clause-internal phases.

The rest of the paper consists of five sections. In §2, we examine when VP movement and ellipsis are possible in Mandarin and Cantonese. Special focus is put on aspectual elements, which display different ability to license VP movement and ellipsis. In §3, we propose that the lower aspect projection, when projected, replaces the *vP* to be a phase. Such a property is crucial in deriving the inability of certain aspectual elements to license VP movement and ellipsis. In §4, we provide independent

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1. Unless otherwise specified, VP is used as a shorthand for *verb phrase*, not to be contrasted with *vP*. In the proposal, we will assume with C.-T.J. Huang (1993) that the fronted verb phrases is a larger, *vP* structure, rather than a VP.

evidence supporting different ingredients in the proposal. In §5, we discuss two sets of apparent counterexamples to our proposal. We conclude in §6.

## 2 When are VP movement and ellipsis possible?

In what follows, we establish two sets of empirical observations relating to the licensing conditions of VP movement and ellipsis. In §2.1, we show that both VP movement and ellipsis require head licensing. Then, in §2.2, we present novel observations that only a subset of pre-verbal aspectual elements can license VP movement and ellipsis.

### 2.1 The verb-adverb distinction

As is observed in the literature, a verb phrase in Mandarin can be fronted or elided when it follows modal/auxiliary verbs (Tsai 2015; Law and Ndayiragije 2017).<sup>2</sup> This is illustrated in (1) and (2).<sup>3</sup> The symbol  $\Delta$  is adopted to represent the trace or the elided site of the bracketed VPs.

#### (1) Modal verbs license VP fronting

- a. [Qu xiancheng] Akiu keneng **hui**  $\Delta$ . [M(andin)]  
go town Akiu possibly will  
'Go to town, Akiu possibly will.' (Tsai 2015, p.283)
- b. [Zai yanhui shang chang yi-shou ge] wo bu **gan**  $\Delta$ . [M]  
at party up sing one-CL song I not dare  
'I dare not to sing a song at the party.'

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2. We follow Lin and Tang (1995), Huang, Li, and Li (2009), and T.-H. J. Lin (2011) and treat modal/auxiliary verbs as lexical verbs, instead of functional categories. However, our ultimate proposal does not hinge on this assumption. See footnote 21 in §3.3.2 for discussions.

3. Throughout this paper, we do not make the common distinction between raising modals and control modals (see Lin and Tang 1995; Huang, Li, and Li 2009), as the distinction does not correlate with the ability to license VP movement or ellipsis. For an example of a raising modal that licenses VP movement, see (5b).

(2) Modal verbs license VP ellipsis

a. Wo [jian-guo ta sancǐ] le; tamen ye **yao** Δ. [M]

I see-EXP him three.times LE they also will

'I have seen him three times; they also will (see him three times).' (Li and Wei 2014, p.290)

b. Zhangsan bu keyi [bangmang Lisi], danshi Wangwu **keyi** Δ. [M]

Zhangsan not may help Lisi but Wangwu may

'Zhangsan may not help Lisi, but Wangwu may (help Lisi).'

(Law and Ndayiragije 2017, p.692)

However, modal adverbs are in contrast with modal verbs, which do not license VP fronting or ellipsis.

(3) Modal adverbs do not license VP fronting

a. \*[Yao qu xiancheng] Akiu **bixu** Δ. [M]

will go town Akiu obligatorily

'Will go to town, Akiu obligatorily.' (Tsai 2015, p.283)

b. \*Zhangsan hui piping Lisi. [hui piping Wangwu], ta bu **yiding** Δ. [M]

Zhangsan will criticize Lisi will criticize Wangwu he not definitely

Int.: 'Zhangsan will criticize Lisi, but criticize Wangwu, he will not necessarily.'

(Law and Ndayiragije 2017, p.692)

(4) Modal adverbs do not license VP ellipsis

a. \*Akiu bixu [yao qu xiancheng], Xiaodi ye **bixu** Δ. [M]

Akiu obligatorily will go town Akiu also obligatorily

Int.: 'Akiu must enter the town, and Xiaodi must, too.' (Tsai 2015, p.284)

b. \*Akiu yiding [hui qu xiancheng], Xiaodi ye **yiding** Δ. [M]

Akiu surely will go town, Xiaodi also surely

Int.: "Akiu must be entering the town, and Xiaodi must, too." (p.284)



(6) Other clause-taking verbs license VP movement/ellipsis

- a. [Zai waiguo shenghuo] Lisi yijing **xiguan**-le Δ ba. [M], fronting  
in foreign.country live Lisi already be.used.to-PERF SFP  
'Lisi is already used to living abroad, right?'
- b. Keoi soengsi-gwo [sik jat-nin sou], ngo dou **soengsi**-gwo Δ. [C], ellipsis  
He try-PERF eat one-year vegan I also try-PERF  
'He tried to eat vegan for one year; I also tried.'
- c. Aaming sat **zungyi** Δ laa3 [heoi Hoenggong wan]. [C], postposing  
Aaming definitely like SFP go Hong Kong travel  
'Aaming definitely likes to travel to Hong Kong.'

However, manner adverbs and aspectual adverbs fail to license VP movement and ellipsis. For example, the Mandarin adverb *zixi* 'carefully' in (7) cannot be license VP fronting. The sentence is acceptable without *zixi*, where VP fronting is licensed by the modal *neng* 'be.able'. In (7), the Cantonese adverb *jiging* does not license VP ellipsis. The sentence is acceptable with the copula *hai* to convey the intended meaning.

(7) Manner/Aspectual adverbs do not license VP movement and ellipsis

- a. [Jiancha zhe bu che] Zhangsan wanquan bu neng (\***zixi**) Δ. [M], fronting  
examine this CL car Zhangsan completely not be.able carefully  
'Zhangsan is unable not to examine this car (carefully).'
- b. Aaming jiging [lai-zo Hoenggong], ngo dou {\***jiging**/ hai} Δ. [C], ellipsis  
Aaming already come-PERF Hong Kong I also already COP  
Int.: 'Aaming already came to Hong Kong. I am, too.'

These observations show that head licensing is *necessary* in licensing VP movement and ellipsis, as stated in (8). We stress that it is not a *sufficient* condition, as we will see shortly in the next subsection that not all heads license VP movement or ellipsis.

(8) The necessary licensing condition of VP movement and ellipsis

VP movement and ellipsis in Mandarin and Cantonese require head licensing.

Before we proceed, we briefly discuss two apparent counter-examples to this generalization. The examples in (9) show that the epistemic modal verbs like *keneng* (Mandarin) and *honang* (Cantonese) ‘be.possible’ fail to license VP movement or ellipsis, despite being a head (at least under the analyses in Lin and Tang (1995), Huang, Li, and Li (2009), and T.-H. J. Lin (2011))<sup>6</sup>.

(9) *Keneng/honang* do not license VP movement or ellipsis

a. \*[Hui qu xianchang] Akiu **keneng** Δ. [M], fronting

will go town Akiu possibly

Int.: ‘It is possible that Akiu will enter the town.’ (cf. Tsai 2015, p.283)

b. \*Aaming honeng [joeng-zo zek maau]. Aafan dou **honang** Δ. [C], ellipsis

Aaming be.possible keep-PERF CL cat Aafan also be.possible

Int.: ‘It is possible that Aaming keeps a cat. It is possible that Aafan does so too.’

We return to this issue in §5.1, where we will see that the restriction applies to epistemic modals in general, rather than specifically to *keneng/honang*.

## 2.2 Aspectual elements

Turning to aspectual elements, they display non-uniform behaviors in licensing VP movement and ellipsis. In §2.2.1, we discuss perfective and imperfective markers, and in §2.2.2 we consider aspectual verbs. We observe that the status of being a head does not necessarily license VP movement and ellipsis. Aspectual elements are divided into two types depending on their licensing ability.

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6. For a different view on *keneng*, see Tsai (2015).

### 2.2.1 Perfective and imperfective markers

In Mandarin, perfectivity can be marked by the pre-verbal *you* ‘have’, and *you* can be negated resulting in *mei-you* ‘not-have’. Both of them can license VP ellipsis.<sup>7</sup>

(10) The perfective marker *you* in Mandarin license VP ellipsis

- a. Zoutian you [xia yu], jintian ye **you** Δ. [M]  
yesterday have fail rain, today also have  
‘It rained yesterday. It rained today too.’
- b. Ta na-dao cai [zhu de hen haochi], wo **mei-you** Δ. [M]  
he that-CL dish cook DE very delicious I not-have  
‘He cooked that dish deliciously; I haven’t cooked (the dish deliciously).’

(Li and Wei 2014, p.290)

Likewise, the Cantonese counterpart of *you*, i.e., *jau*, and its negated form *mou* can license VP fronting, as shown in (11). Also, *mei* ‘not.yet’ is similar to *mou*, except that the former additionally conveys the speaker’s expectation that the event will happen. It allows VP ellipsis, as shown in (12).

(11) The perfective marker *jau* in Cantonese license VP fronting

- [Loeng taiwan], ngo camjat **jau** Δ, daan gamjat **mou** Δ. [C]  
measure body.temperature I yesterday have but today not.have  
‘I measured (my) body temperature yesterday, but I didn’t (do so) today.’

(12) *Mei* ‘not.yet’ in Cantonese license VP ellipsis

- Ni-po faa mei [hoi], go-po dou **mei** Δ. [C]  
this-CL flower not.yet blossom, that-CL also not.yet  
‘This flower hasn’t blossom yet. That flower hasn’t either.’

However, when it comes to imperfective (progressive) markers, such as *zai* in Mandarin and *hai-*

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7. The usage of *you* in (10a) is commonplace in Taiwan Mandarin, but not Northern Mandarin. We do not address the variation in this paper.

*dou* in Cantonese, neither VP movement or ellipsis is allowed.<sup>8</sup>

(13) Progressive markers do not license VP ellipsis

a. \*Na-ge dianhua zai [xiang], zhe-ge dianhua ye **zai** Δ. [M]

that-CL phone at ring this-CL phone also PROG

Int.: ‘That phone is ringing. This phone is also (ringing).’

b. \*Go-ngaan dang hai-dou [sim], ni-ngaan dang dou **hai-dou** Δ. [C]

that-CL light PROG flicker this-CL light also PROG

Int.: ‘That light is flickering. This light is also (flickering).’

(14) Progressive markers do not license VP movement

a. \*[yigeren da lanqiu], Zhangsan **zai** Δ. [M], fronting

alone play basketball Zhangsan PROG

Int.: ‘Zhangsan is playing basketball alone.’

b. \*Aaming **hai-dou** Δ aa3 [jatgojan daa laamkau]. [C], postposing

Aaming PROG SFP alone play basketball

Int.: ‘Aaming is playing basketball alone.’

If progressive markers are head elements<sup>9</sup>, then the observations on progressive markers indicate that not all heads license VP movement or ellipsis. This observation is further corroborated by observations on aspectual verbs, which we discuss in the next subsection.

### 2.2.2 Aspectual verbs

Verbs specifically contributing to aspectual meaning (hence aspectual verbs) such as *kaishi/hoici* ‘begin’ and *jixu/gaizuk* ‘continue’ are similar to progressive markers. They disallow their complement

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8. The Cantonese *hai-dou* consists two morphemes, the copula *hai* and *dou* ‘place’. It is ambiguous between a spatial reading (‘at here’) and a progressive reading. The second clause in (13b) is unacceptable on the progressive reading, but it can have a spatial reading: ‘this light is also (physically) at here,’ although this is pragmatically odd as a continuation of the first clause. For more discussions, see Chan (1996, p.278-290) and Matthews and Yip (2011, p.230-231).

9. While *zai* is treated as a head in Huang, Li, and Li (2009), the status of *hai-dou* is less clear, given its morphological component. It might be a head or a phrase. In this paper, we assume that *hai-dou* is a head on a par with the Mandarin *zai*.



- a. [Hok jatman], ngo jatzik dou soeng **hoici** Δ, batgwo taai mong. [C], fronting  
 learn Japanese I straight DOU want begin but too busy  
 ‘I always want to begin to learn Japanese, but I am too busy.’

The contrast between (15) and (16) suggests that the inability to license VP movement and ellipsis is linked to the aspectual usage of these verbs.<sup>12</sup>

While it is tempting to conclude that all aspectual verbs fail to license VP movement and ellipsis, we would like to extend the discussions to two Cantonese-specific expressions that similarly convey aspectual meaning, namely *si-gwo* ‘try-EXP’ and *kip-zyu* ‘keep-DUR’. They show an intriguing contrast with regard to VP movement and ellipsis.

Let us start with *si-gwo*. It consists of the verb *si* ‘try’ and the experiential marker *gwo*. Wu (2020) suggests that *si-gwo* ‘try-EXP’ is lexicalized as one element, which means ‘have experience of’. Specifically, the original meaning of ‘try’ is bleached, and it acquires an aspectual meaning that asserts existence of an experience or a past event. Unlike the transitive/control verb *si* ‘try’, it does not require an animate subject and the associated event need not be controllable. An example is given in (17).<sup>13</sup>

(17) An example of *si-gwo* ‘try-EXP’

- Ni-po faa **si-gwo** hoi-coet do zi-faa lei. [C]  
 this-CL flower try-EXP blossom-out CL purple-flower come  
 ‘This plant once had a purple flower.’ (Mai and Tan 1997)

Since the distribution and aspectual meaning of *si-gwo* are similar to aspectual verbs, it is interesting to see if *si-gwo* licenses VP movement and ellipsis. The examples in (18) suggest a positive answer.

12. The inability of licensing VP movement and ellipsis should be not attributed to the raising property of aspectual verbs. This is because raising modals can license VP movement, as exemplified in (5b).

13. Wu (2020) also observes that such aspectual meaning disappears if *-gwo* in *si-gwo* is replaced by the perfective marker *-zo*. This further suggests that *si-gwo* is lexicalized, since it cannot be modified.



(20) Kip-zyu ‘keep-DUR’ does not license VP movement or ellipsis

- a. \*[Coet houmaang ge taijoeng], zinghai ni-dou **kip-zyu** Δ zaa3. [C], fronting  
 come.out bright GE sunshine only this-place keep-DUR SFP

Int.: ‘Only this place continues to have bright sunshine.’

- b. Ni-gaan fong kip-zyu [fatcoet gwaai-mei]. \*Go-gaan dou **kip-zyu** Δ.  
 this-CL room keep-DUR give.off strange-smell that-CL also keep-DUR

Int.: ‘This room keeps giving off strange smell. That one does, too.’ [C], ellipsis

To sum up, aspectual verbs (or aspectual-verb-like expressions) do not necessarily license VP movement and ellipsis, reflecting a split similar to what we have seen in the perfective and imperfective markers.

### 2.3 Interim summary

Taking stock, we have first seen that head licensing is crucial for successful VP movement and ellipsis. The generalization in §2.1 is repeated below.

(21) The necessary licensing condition of VP movement and ellipsis =(8)

VP movement and ellipsis in Mandarin and Cantonese require head licensing.

However, head licensing is only the necessary condition for VP movement and ellipsis. Observations on aspectual elements in §2.2 reveal that head elements do not always license VP movement and ellipsis. This divides aspectual elements into two classes. For convenience, we refer to those that license VP movement and ellipsis as *Type A*, whereas those that do not as *Type B*. This is summarized in Table 1.

Aspectual elements	Mandarin	Cantonese	Gloss
Type A (licensing elements)	<i>you</i>	<i>jau</i>	‘have’ / PERF
	<i>mei-you</i>	<i>mou</i>	‘not-have/not.have’
	/	<i>mei</i>	‘not.yet’
	/	<i>si-gwo</i>	‘try-EXP’
Type B (non-licensing elements)	<i>zai</i>	<i>hai-dou</i>	‘at(-here)’ / PROG
	<i>kaishi</i>	<i>hoici</i>	‘begin’
	<i>jixu</i>	<i>gaizuk</i>	‘continue’
	/	<i>kip-zyu</i>	‘keep-DUR’

Table 1: Two types of aspectual elements in Mandarin and Cantonese

Combining the observations in previous sections, we reach the following empirical landscape with regard to the ability to license VP movement and ellipsis in Mandarin and Cantonese, given in Table 2. We move on to our proposal in the next section.

	VP fronting	VP ellipsis	VP postposing
(Lexical) verbs	✓	✓	✓
Adverbs	✗	✗	✗
Type A aspectual elements	✓	✓	✓
Type B aspectual elements	✗	✗	✗

Table 2: Elements that (do not) license VP movement and ellipsis

### 3 Analysis

#### 3.1 A phases-theoretic framework and assumptions

Our proposal is couched under the phase-theoretic minimalist framework in Chomsky (2000, 2001). We assume that a mono-clausal structure contains at least C, T,  $\nu$  and V, ordered in a way depicted in (22). By default, it consists of two phase heads, C and  $\nu$ , and each of them constitutes a phase, i.e., CP and  $\nu$ P, but we will see shortly that the status of a phase is not set once and for all.

(22) C and  $\nu$  are phase heads, and CP and  $\nu$ P are phases

$$\boxed{\text{CP}} \text{ C ... T ... } \boxed{\nu\text{P}} \nu \text{ ... V ...}$$

We assume the presence of the syntactic T head (Sybesma 2007; Tsai 2008; N. Huang 2015; Law and Ndayiragije 2017; He 2020; C.-T. J. Huang 2022).<sup>15</sup> However, the label T/TP bears minimal theoretical commitment. It might be any functional projection between CP and  $\nu$ P, as long as it is the (non-phasal) complement of C.

Furthermore, we assume that head licensing is crucial in both VP movement and ellipsis in both Mandarin and Cantonese (Tsai 2011, 2015). See especially Tsai (2011) for the same condition in movement and ellipsis in the nominal domain. For space reasons, we abstract over why head licensing is crucial (see also Saito and Murasuki 1990; Lobeck 1995, for relevant discussions in other languages).

### 3.2 Three ingredients in the proposal

The core intuition in the proposal is that the verb phrase undergoing VP movement or ellipsis must be a *phase*, in addition to being a head. To cash out this idea, we make three suggestions.

First, we suggest that the functional projections relating to aspectual meaning are split into *High-Aspect Phrase* (HAP) and *Low-Aspect Phrase* (LAP). We suggest that Type A aspectual elements head HAP, whereas Type B aspectual elements head LAP. Both of them are above  $\nu$ P. This is schematically represented in (23).

(23) The proposed clausal structure in Chinese

... » **High-AspectP** » **Low-AspectP** »  $\nu$ P » VP

The suggestion that the aspect projection may split is not new, as discussed in Huang, Li, and Li (2009). Our proposal differs from theirs in terms of what elements go into HAP and LAP. We discuss further justifications and evidence for this suggestion in §4.1.

Second, following the spirit in Bobaljik and Wurmbrand (2005), Wurmbrand (2013, 2014), Bošković (2014), and Harwood (2015), we propose that *phasehood is contextually/dynamically determined*. We suggest that the size of the clause-internal phase (typically the  $\nu$ P) depends on whether Low-AspectP is projected. In other words, Low-AspectP must be included in the first (clause-internal) phase.

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15. For an opposite view, see J.-W. Lin (2010).

(24) Variable phasehood on the clause-internal phase

- a.  $\nu$ P is a phase when Low-AspectP is not projected.
- b. (The highest) Low-AspectP is a phase when projected.

Note that this variation does not apply to other higher projections, such as High-AspectP. We will provide further justifications of this in §4.2.<sup>16</sup>

The last ingredient in our proposal is that *VP movement and ellipsis privilege phases in Mandarin and Cantonese*. Put differently, verbal projection undergoing movement and ellipsis must be a phase. Similar ideas have been suggested in Rackowski and Richards (2005), Fowlie (2010), Müller (2010), and Roberts (2010). We will substantiate this suggestion in §4.3.

### 3.3 Deriving the licensing conditions of VP movement and ellipsis

In what follows, we illustrate how the proposal derives the licensing conditions of VP movement and ellipsis. In §3.3.1, we first illustrate how the proposal derives the difference between Low-Aspect heads and lexical verbs. Then, in §3.3.2, we move on to the difference between Low-Aspect heads and High-Aspect heads.

#### 3.3.1 Deriving the contrast between Low-Aspect heads and lexical verbs

Recall that lexical verbs (modal verbs, or other clause-taking verbs) contrast with Type B aspectual elements in VP fronting (and ellipsis): the former but not the latter licenses VP fronting. The relevant examples are repeated in (25).

(25) The contrast between lexical verbs and aspectual verbs in VP fronting

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16. In more concrete terms, we follow Harwood (2015) and implement the idea derivationally in (i). Whether  $\nu$ P is a phase depends on whether a Low-Aspect head is selected in the sub-numerations.

(i) Harwood's implementation of contextual phasehood

- a. Phases are determined by sub-numerations.
- b. The last item from a sub-numeration to be merged into the workspace projects the phase, irrespective of what that item is.

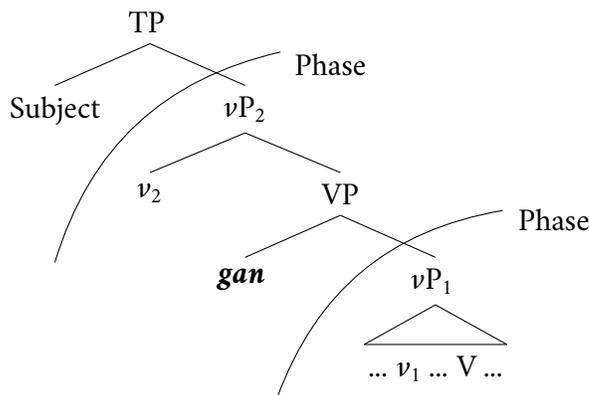
- a. [Zai yanhui shang chang yi-shou ge] wo bu **gan** Δ. [M], =(1b)  
 at party up sing one-CL song I not dare  
 ‘I dare not to sing a song at the party.’
- b. \*[manman bian hong] zhe-duo hua **kaishi** Δ ne. [M], =(15a)  
 slowly turn red this-CL flower begin SFP  
 ‘This flower begins to turn red.’

While the modal verb *gan* heads a verbal projection, i.e. VP,<sup>17</sup> the aspectual verb *kaishi* head the Low-AspectP under our split-aspect-head analysis. In other verbs, *gan* involves a bi-clausal structure, whereas *kaishi* involves a mono-clausal structure, schematically represented below.<sup>18</sup>

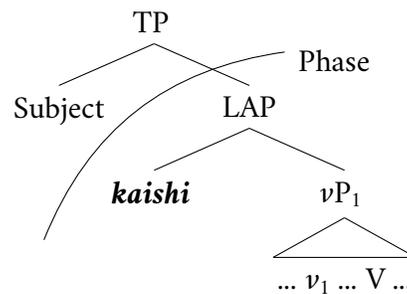
- (26) a. The structure of (25a): Subj [<sub>vP2</sub> **gan** [<sub>vP1</sub> ... ] ] Bi-clausal structure  
 b. The structure of (25b): Subj [<sub>LAP</sub> **kaishi** [<sub>vP</sub> ... ] ] Mono-clausal structure

Importantly, under a contextual/dynamic approach to phasehood, what constitutes a phase in these two structures is substantially different. Particularly,  $vP_1$  in (27) (selected by *gan*) is a phase, as the LAP is not projected. On the other hand, the  $vP_1$  in (28) is selected by *kaishi*, which projects the LAP. Accordingly, the LAP constitutes a phase, instead of the  $vP_1$ .

(27)  $vP_1$  and  $vP_2$  are phases in (25a)



(28) LAP is a phase in (25b)



17. It is also possible that the modal heads a functional projection, e.g., ModalP, and take a  $vP$  complement. See footnote 21 and discussions in §4.3.

18. We follow C.-T.J. Huang (2022) in assuming that both *gan* and *kaishi* select a  $vP$  clause. For more discussions on the size on complement clauses, see §4.3.

The crucial difference between the two structures is the status of  $\nu P_1$ . While it is a phase in (27), it is not in (28). This is where the last ingredient of the proposal comes into play. We suggest that in Mandarin (and Cantonese), only phases can under VP movement. This explains why VP fronting (precisely the fronting of  $\nu P$ ) is allowed in *hui*-sentences but not *kaishi*-sentences. It also accounts for cases relating to VP postposing (in Cantonese), if we assume that it also involves movement of  $\nu P$ .

As for the observations concerning VP ellipsis, we suggest that similar to VP movement, VP ellipsis privileges phases and elides a  $\nu P$  structure in the relevant cases. Note that the possibility of phasal ellipsis (based on English data) is suggested in Bošković (2014) and Harwood (2015), but Mandarin and Cantonese are different from English in that the latter additionally allow phasal complements to be elided. No such flexibility is allowed in Mandarin and Cantonese.<sup>19 20</sup>

### 3.3.2 Deriving the contrast between Low-Aspect heads and High-Aspect heads

As opposed to Low-Aspect heads, Type A aspectual elements in High-AspectP license both VP movement and ellipsis. We propose that this is because the variation of the clause-internal phase does not extend beyond LAP. In other words, LAP marks the upper boundary of the clause-internal phase, as illustrated in (29).

(29) The proposed division of the clausal spine



Recall the Mandarin examples in (10), repeated below in (30). The perfective marker *you* and *mei-you*, as we propose, head the HAP. VP ellipsis in both cases is possible.

(30) The perfective marker *you* in Mandarin license VP ellipsis =(10)

- a. Zoutian you [xia yu], jintian ye **you** Δ. [M]  
 yesterday have fail rain, today also have  
 ‘It rained yesterday. It rained today too.’

19. This amounts to the suggestion that the possible size of VP movement and ellipsis may vary across languages.

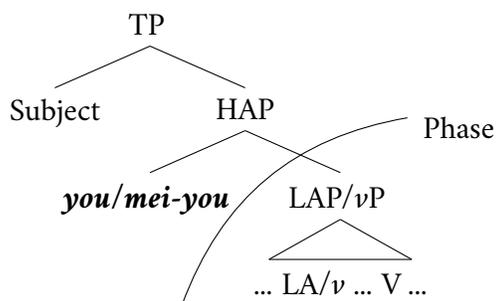
20. The similarities between VP movement and VP ellipsis may not be a mere coincidence. It has been suggested that  $\nu P$  ellipsis potentially involves a previous step of  $\nu P$  movement (or  $\nu P$  topicalization) before ellipsis (Johnson 2001; Aelbrecht and Haegeman 2012). We leave this to future research, however.

- b. Ta na-dao cai [zhu de hen haochi], wo **mei-you** Δ. [M]  
 he that-CL dish cook DE very delicious I not-have  
 ‘He cooked that dish deliciously; I haven’t cooked (the dish deliciously).’

(Li and Wei 2014, p.290)

The proposed split aspect analysis crucially allows High-Aspect heads in HAP to license VP movement and ellipsis, as its complement clause (either LAP or  $\nu$ P) is a phase (which can be moved or elided). Schematically, this idea is represented in (31).<sup>21</sup>

- (31) The phasehood of  $\nu$ P or LAP does not extend to HAP



We postpone to §4.2 the discussions of why LAP appears to be unique in setting the upper boundary of the clause-internal phase. We stress that the three ingredients of the proposal adequately derive the licensing conditions of VP movement and ellipsis.

## 4 Supporting evidence for the proposal

The following three subsections provide supporting evidence for the three ingredients in the proposal, respectively. Along the discussions, we also consider and argue against some potential alternatives to the proposed licensing account.

21. We suggested that our proposal does not commit us to the lexical status of modal verbs. This is because if they are indeed functional heads of ModalP (cf. Wurmbrand 2001), and situate above HAP, as in (i) below, they would be able to license VP movement and ellipsis in the same way as High-Aspect heads.

- (i) The proposed division of the clausal spine, with ModalP



## 4.1 A split aspect analysis

We suggested that the aspect projection above the  $\nu$ P is divided into High-AspectP and Low-AspectP. Such a split aspect analysis is not new. Huang, Li, and Li (2009) have proposed two aspect projections to accommodate the two aspectual system in Mandarin, namely, the pre-verbal aspectual one, and the suffixal one. They also note that “a clause contains as many [Aspect Phrase] as there are identifiable aspectual markers” (p.105). Our proposal further develops this idea and suggests that certain pre-verbal aspectual elements are structurally higher than the others, i.e., Type A (in HAP) is higher than Type B (in LAP).<sup>22</sup> The empirical evidence comes (i) co-occurrence and (ii) ordering restrictions of these aspectual elements. In the examples in (32a), the Mandarin perfective *you* (Type A) can co-occur with the progressive *zai* (Type B). Importantly, *you* must precede *zai*. The same can be said to the Cantonese counterparts in (32b).

### (32) Evidence from stacking and ordering of elements in HAP and LAP

- a. Zhiyou zhe-ge difang {**you zai**/ \***zai you**} mai zhe-kuan dianhua. [M]  
only this-CL place have PROG PROG have sell this-kind phone  
‘Only this place is selling this kind of phone.’
- b. Go dinwaa tausin {**jau hai-dou**/ \***hai-dou jau**} hoeng. [C]  
CL phone just.now have PROG PROG have ring  
‘The phone was ringing just now.’

These examples indicate that the aspect projection for pre-verbal aspectual elements should be divided into two projections, and HAP (Type A) is structurally higher than LAP (Type B).

It is noteworthy that our proposal treats aspectual “verbs” such as *kaishi* ‘begin’ and *jixu* ‘continue’ as functional/aspect heads, instead of lexical/verbal heads, despite that they have a verbal origin (i.e., they can be used as a control verb; see §2.2).<sup>23</sup> Distinguishing these categories in Mandarin and Cantonese is not an easy task. A piece of suggestive evidence for the distinction comes from verbal suf-

22. We do not discuss structural position of verbal suffixes in this paper. They might be in LAP, or head a separate aspect projection.

23. In our view, aspectual “verbs” are not verbal categories, but we continue to use this label for convenience.



- (35) a. *Kip-zyu* used as an aspectual verb  
 \*Go soenghau **kip-zyu-zo** samhyut. [C], cf. (19a)  
 CL wound keep-DUR-PERF bleed  
 ‘The wound keeps bleeding.’
- b. *Kip-zyu* used as a transitive verb  
 Keoi **kip-zyu-zo** bou gau dinwaa. [C]  
 s/he keep-DUR-PERF CL used phone  
 ‘S/he kept the used phone (until now).’

The observations here suggest that the ability to take verbal suffix is correlated with the aspectual/non-aspectual usage of aspectual verbs. We attribute this correlation to the functional-lexical status of the aspectual verbs: aspectual verbs are functional categories when used to convey aspectual meaning, and thus fail to take verbal suffix. However, they are lexical categories when used as transitive/control verbs. In such cases, they can take verbal suffixes.

In addition, cross-linguistic data suggests that aspectual verbs commonly lose their verbal status and become functional heads (Wurmbrand 2001; Cinque 2003; Arregi and Molina-Azaola 2004; Fukuda 2012). See especially Fukuda (2012) for detailed discussions on the fine-grained distinctions between different aspectual verbs in Japanese. We must leave further comparisons between these languages to future research, however.

## 4.2 The upper boundary of the clause-internal phase

With regard to the proposed variation in the phasehood in the verbal domain, we suggested that LAP is unique in the sense that it sets the upper boundary of the clause-internal phase. More specifically, while the phasehood of *vP* may “pass on” to LAP (when projected), it does not go further to HAP. The question here is: what is special about LAP such that it sets the upper boundary of the lower phase?

We first note that the proposed split is not specific to Mandarin and Cantonese. Harwood (2015) independently argues for the unique status of a particular aspect projection in English, namely, the progressive aspect projection. Based on VP fronting/ellipsis facts in English, he proposes a division

at the progressive aspect projection on the clausal spine (where the progressive *be* is suggested to be a phase head).

(36) The division of the clausal spine in English (Harwood 2015, p.558)

- a. Higher phase: [C, T, *Modal*, Inf, Perfect *have*, Perfect-Asp ]
- b. Lower phase: [ **Progressive *be***, **Progressive-Asp**, Passive/Copula *be/v*, Voice, V]

To see some concrete examples, consider the sentences in (37), where VP ellipsis is involved. Since English allows VP ellipsis of a phase and of a phasal complement (Bošković 2014; Harwood 2015), the elided structure in (37a) can be the phasal ProgressiveP (the structure including *be*) or the phasal complement of ProgressiveP (the structure excluding *be*). Crucially, in (37b), the complement of *being* cannot be elided, even though it is a *vP*. Harwood suggests that it is no longer a phase in the presence of the progressive projection. Instead, it is the complement of the phasal complement, and thus not a licit ellipsis site in English. The progressive projection is thus argued to be unique in being able to redefine the phase boundary.

(37) English ellipsis cannot target projection below the progressive aspect

- a. Betsy might be [being paid to keep quiet], and Dorothy might (**be**) Δ, too.
- b. \*Betsy might be being [paid to keep quiet], and Dorothy might **be** being Δ, too.

(adapted from Harwood 2015)

The unique status of progressive projection in English advocated in Harwood (2015) is comparable to that of LAP in Mandarin and Cantonese. The idea that certain aspect projection bears a unique status is thus not language-specific.

More importantly, there is indeed a plausible semantic basis that underlies the split. Since the proposed LAP in Mandarin and Cantonese involves a larger class of aspectual elements in addition to the progressive markers, this allows us to take a closer look at the semantic contribution of aspectual elements in LAP (Type B). Recall the elements in High-Aspect heads (Type A) and those in Low-Aspect heads (Type B), repeated below in Table 3.

Aspectual elements	Mandarin	Cantonese	Gloss
Type A (licensing elements)	<i>you</i>	<i>jau</i>	‘have’ / PERF
	<i>mei-you</i>	<i>mou</i>	‘not-have/not.have’
	/	<i>mei</i>	‘not.yet’
	/	<i>si-gwo</i>	‘try-EXP’
Type B (non-licensing elements)	<i>zai</i>	<i>hai-dou</i>	‘at(-here)’ / PROG
	<i>kaishi</i>	<i>hoici</i>	‘begin’
	<i>jixu</i>	<i>gaizuk</i>	‘continue’
	/	<i>kip-zyu</i>	‘keep-DUR’

Table 3: Two types of aspectual elements in Mandarin and Cantonese (repeated)

We suggest that LAP is different from HAP in that the former represents the core predicational layer, i.e., it forms a part of the predicate and contributes to *event-internal* description (Bowers 1993, 2002; Ramchand and Svenonius 2014; Harwood 2015). Put differently, Type B elements focus on an interval right at the beginning or between the beginning and end of an event. They can be said to contribute to imperfectivity or unboundedness, i.e., events or states that have not reached an endpoint. This is the case for the progressive markers, and is also true of the other aspectual verbs marking inchoation or continuation, since none of them indicates the completion of an event.

On the other hand, we suggest that HAP operates on a separate, higher level, i.e., *event-external* description. That is, Type A elements focus on the final state of an event, and contribute to perfectivity or boundedness, i.e., events or states that have reached an endpoint. This squares well with perfective markers. As for the Cantonese *si-gwo*, it is similar to perfective markers and conveys that an event have occurred in the past.

If this is on the right track, the proposed division of the clausal spine is semantically correlated with (im)perfectivity or (un)boundedness, and thus offers semantic motivation to distinguish LAP from HAP in terms of potentials of being a phase. This amounts to the suggestion that elements contributing imperfectivity/unboundedness must be included in the first phase. This appears to be a plausible semantic correlation with (syntactic) phasehood.<sup>25</sup>

25. Adopting the idea of extended projection (Grimshaw 2000), Bošković (2014) suggests that AspectP, but not higher projections (i.e., TP), is within the extended verbal projection. We do not adopt this approach to derive the unique status of LAP, as it is less clear why HAP should be excluded from this extended projection. It also raises questions why the verbal

### 4.3 Movement and ellipsis privilege phases

In this last subsection, we discuss evidence for the suggestion that movement and ellipsis in Mandarin and Cantonese privilege phases. Under our proposal, non-phasal clauses are predicted to fail to undergo movement or ellipsis. In §4.3.1, we contrast  $\nu$ P with VP, and in §4.3.2, we contrast CP with TP (or the like). In §4.3.3, we discuss and argue against an alternative to derive the licensing conditions of VP movement and ellipsis that is based on anti-locality constraints (Abels 2003, i.a.).

#### 4.3.1 Contrasting phasal $\nu$ P with non-phasal VP

The suggestion that VP movement involves movement of a  $\nu$ P instead of a VP in Mandarin has its precursor in the discussion of reconstruction and VP fronting in C.-T. J. Huang (1993). He suggests that the a fronted verb phrase is a structure larger than a VP and contains the subject trace. The evidence comes from the binding possibilities of the reflexive anaphor *taziji* ‘self.’<sup>26</sup> In (38a), the DP/NP containing *taziji* is fronted, and it can be bound by either the embedded subject (in the base position) or the matrix subject (in the intermediate site, i.e. Spec CP). However, in (38b), the VP containing *taziji*, but it can only be bound by the embedded subject.

(38) A contrast in binding possibility of *taziji* in Mandarin (p.119)

a. *NP/DP fronting*

[*taziji*<sub>i/j</sub> de shi], Zhangsan<sub>i</sub> xiwang Lisi<sub>j</sub> neng guan-yi-guan  $\Delta$ .  
himself 's matter Zhangsan hope Lisi can care-a-little  
'His<sub>i/j</sub> own business, Zhangsan<sub>i</sub> hopes Lisi<sub>j</sub> will care for a bit.'

b. *VP fronting*

[*piping taziji*<sub>\*i/j</sub>], Zhangsan<sub>i</sub> zhidao Lisi<sub>j</sub> juedui bu **hui**  $\Delta$ .  
criticize himself Zhangsan knows Lisi definitely not will  
'Criticize himself<sub>\*i/j</sub>, Zhangsan<sub>i</sub> knows Lisi<sub>j</sub> definitely will not.'

---

projection does not extend to CP, as is originally proposed. We do not pursue this direction further. For discussions, see Harwood (2015).

26. Another argument concerns Principle C, which we do not replicate here. See C.-T. J. Huang (1993, p.119) for discussions.

Huang attributes the more restricted binding possibility of *taziji* in (38b) to that suggestion that the fronted VP is a structure that contains the trace of the embedded subject (i.e. Lisi), which binds *taziji* in the local domain. This is illustrated in (39). This binding relation holds no matter where the VP is reconstructed, and such a trace does not exist in NP/DP fronting cases. This suggests that the fronted verb phrase is not a VP but a larger structure, presumably a  $\nu$ P.

(39) A (simplified) structure of (38b)

[ $\boxed{t_j}$  piping taziji<sub>i\*/i/j</sub> ], Zhangsan<sub>i</sub> ... Lisi<sub>j</sub> ...  $\Delta$

Applying Huang's argumentation on VP postposing in Cantonese, we obtain a similar pattern. The reflexive anaphor *keoizigei* 'self' has a more restricted binding possibility in VP postposing in (40b), compared to NP/DP postposing in (40a). The contrast follows if VP postposing in Cantonese also involves a  $\nu$ P structure, instead of a VP one.

(40) A contrast in binding possibility of *keoizigei* in Cantonese

a. *NP/DP postposing*

Aaming<sub>i</sub> waa Aawai<sub>j</sub> m-wui maai  $\Delta$  lo1 [keoizigei<sub>i/j</sub> ge soeng].

Aaming say Aawai not-will buy SFP self MOD photo

'Aaming<sub>i</sub> said that Aawai<sub>j</sub> will not buy photos of himself<sub>i/j</sub>.'

b. *VP postposing*

Aaming<sub>i</sub> waa Aawai<sub>j</sub> m-**wui**  $\Delta$  lo1 [maai keoizigei<sub>i\*/i/j</sub> ge soeng].

Aaming say Aawai not-will SFP self MOD photo

'Aaming<sub>i</sub> said that Aawai<sub>j</sub> will not buy photos of himself<sub>i\*/i/j</sub>.'

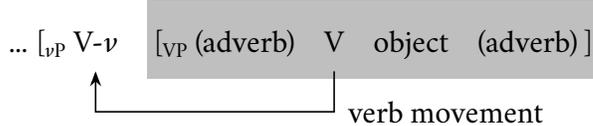
Turning to VP ellipsis, there is also evidence that a smaller, VP structure cannot be elided in Mandarin. In null object constructions (NOCs), it is well observed that an adjunct cannot be included in the missing part (H.-J. G. Li 2002; Xu 2003; Y.-H. A. Li 2005, 2007; Aoun and Li 2008; Li and Wei 2014). For example, the second clause in the sentence in (41a) does not rule out the possibility that Peter brushed his teeth carelessly. Likewise, the second clause in (41b) does not allow a reading where I didn't know Aafan for a long time, despite the presence of the adverb in the preceding clause.

(41) The lack of adjunct reading in NOCs

- a. John zixide shua-le ya, Peter ye shua-le Δ. [M]  
John carefully brush-PERF teeth Peter also brush-PERF  
'John brushed (his) teeth carefully, Peter also did (carefully/carelessly).' (Xu 2003, p.165)
- b. Aaming sik Aafan hounoi, daan ngo {m-sik/ \*mou sik} Δ. [C]  
Aamng know Aafan for.long but I not-know not.have know  
'Aaming knows Aafan for a long time, but I didn't (<sup>OK</sup>know Aafan/ \*know Aafan for a long time).'

The authors just cited take the lack of adjunct reading to argue against a V-stranding VP ellipsis, as suggested in C.-T. J. Huang (2008) and Otani and Whitman (1991). Specifically, NOCs are argued *not* to involve a structure illustrated (42), where verb movement out of VP is followed by VP ellipsis. This is because such a VP ellipsis approach would (wrongly) predict the availability of adjunct reading (where the adverb is elided together with the objects). NOCs are thus taken to be derived via *argument ellipsis*, or other mechanisms that involve no VP ellipsis.

(42) A schematic representation of V-stranding VP ellipsis



Importantly, it is left unexplained that why such a V-stranding VP ellipsis is unavailable in Mandarin and Cantonese, given that the mechanism is well attested in many other verb raising languages (cf. Goldberg 2005). We take the unavailability of V-stranding VP ellipsis in support of our proposal: such ellipsis would have to target non-phasal VPs (the complement of the phase heads; not vP).

#### 4.3.2 **Contrasting phasal CP with non-phasal TP (or the like)**

Under the standard assumption that CP, but not TP, constitutes a phase (Chomsky 2000, 2001), our proposal predicts that while CP but not TP can be fronted or elided. Before testing this prediction, a qualification must be made on the size of different complement clauses, which is not immediately

obvious in Mandarin and Cantonese.

Building on the classification of complement clauses proposed in C.-T. J. Huang (2022), there are three types of verbal complements in Mandarin, and they are selected by different predicates. This is illustrated in Table 4, partially replicated from C.-T. J. Huang (2022, p.24).

Type I complements	Type II complements	Type III complements
<i>faxian</i> ‘discover’	<i>dasuan</i> ‘intend’	<i>kaishi</i> ‘begin’
<i>xiangxin</i> ‘believe’	<i>zhunbei</i> ‘prepare’	<i>zixu</i> ‘continue’
<i>zhidao</i> ‘know’	<i>quan</i> ‘persuade’	<i>neng</i> ‘can’
<i>shuo</i> ‘say’	<i>bi</i> ‘force’	<i>gan</i> ‘dare’
<i>keneng</i> ‘be.possible’	<i>jihua</i> ‘plan’	<i>keyi</i> ‘may’
...etc.	...etc.	...etc.

Table 4: A (non-exhaustive) list of verbs selecting different verbal complements

The distinction among these three types is motivated by various diagnostic tests, indicating that Type I complements are the most independent and transparent, whereas Type III complements are opposite on the same scale, and Type II complements are in the middle. For space reasons, we do not repeat Huang’s arguments here, but see C.-T. J. Huang (2022, p.24-46) for extensive discussions. Furthermore, we follow Huang and assume that the three types of verbal complements correspond to both semantic classes and (the minimal) clause sizes, as illustrated in (43).<sup>27</sup>

(43) Canonical minimal structure mapping (Wurmbrand and Lohninger 2020; C.-T. J. Huang 2022)

- a. Type I (proposition) → Operator domain → CP
- b. Type II (situation) → TAM domain → IP
- c. Type III (event/action) → Theta domain →  $\nu$ P

Against this background, we are now able to see whether CP complements contrasts with IP (or TP) complements in terms of possibility of movement and ellipsis.<sup>28</sup> As suggested, verbs like *faxian* ‘discover’ and *xiangxin* ‘believe’ take CP (Type I) complements. Since CPs are phases, movement and

27. In all previous sections, we exclusively discussed predicates that select Type III complements (except *keneng* ‘be.possible’; see §5.1), and not all of them can license VP movement and ellipsis. This suggests that the licensing conditions of VP movement and ellipsis are independent of the types of verbal complements.

28. The IP/TP distinction does not bear on the discussion, as long as they are complement to the C heads, i.e., non-phasal.

ellipsis of the complement clauses expected to be possible. This is borne out in both Mandarin and Cantonese.

(44) CP movement and ellipsis

a. [Zhangsan mingnian qu liuxue], wo zuotian cai **faxian** Δ. [M], fronting  
 Zhangsan next.year go exchange I yesterday just discover  
 ‘I just discovered that Zhangsan (will) go to exchange next year.’

b. Ngo soengsoen [Aaming camjat ci-zo zik], batgwo Aafan dou jigaa dou  
 I believe Aaming yesterday quit-PERF job but Aafan until now still  
 m-**soengsoen** Δ.  
 not-believe  
 ‘I believe that Aaming resigned yesterday, but Aafan still doesn’t believe (Aaming resigned  
 yesterday.)’ [C], ellipsis

Now consider verbs that select IP/TP (Type II) complements such as *dasuan* ‘intend’, *zhunbei* ‘prepare’, *quan* ‘persuade’, *bi* ‘force’ and so on. Our proposal predicts that these verbs fail license movement or ellipsis, as their complements are non-phasal. This is borne out in Mandarin and Cantonese, as in (45).

(45) No IP/TP movement or ellipsis

a. \*[Yang yi-zhi mao], Zhangsan kanlai {**dasuan/ zhunbei**} Δ. [M], fronting  
 raise one-CL cat Zhangsan seem intend prepare  
 ‘It seems that Zhangsan intends to/ is going to raise a cat.’

b. \*Aaming {hyun/ bik} ngo [joeng jat-zek maau]. Aafan dou {**hyun/ bik**} ngo Δ.  
 Aaming persuade force I raise one-CL cat Aafan also persuade force I  
 ‘Aaming persuades/forces me to raise a cat. Aafan also (does so).’ [C], ellipsis

The contrast between (44) and (45) further confirms our suggestion that movement and ellipsis privilege phases.

One more piece of evidence for the privileged status of phases in Mandarin and Cantonese comes from the lack of (English-style) *sluicing* in these languages. Let us consider the examples in (46) which exhibit the *sluicing*-like constructions in Mandarin and Cantonese (cf. the English translations).

(46) Sluicing-like constructions in Mandarin and Cantonese

- a. Zhangsan kandao mouren, danshi wo bu zhidao \*(shi) **shei**. [M]  
 Zhangsan saw someone but I not know COP who  
 ‘Zhangsan saw somebody, but I don’t know **who**.’ (Li and Wei 2014, p.296)
- b. Aaming maai-zo di je, daan ngo m-zi \*(hai) **mat**. [C]  
 Aaming buy-PERF CL thing but I not-know COP what  
 ‘Aaming bought some thing, but I don’t know **what**.’

Some studies (e.g., Wang and Wu (2006)) argue that these sentences involve *wh*-movement followed by TP ellipsis, in a way similar to English (Merchant 2001). However, this analysis is challenged by a number of subsequent works in Wei (2004, 2011), Adams and Tomioka (2012), and Li and Wei (2014, 2017), one motivation being the obligatory presence of the copula verb (as shown in (46)). These authors thus refer to these constructions as *pseudo-sluicing*, and proposes that the *wh*-elements in (46) is not the remnant of TP ellipsis, but a base generated clause containing a predicate with a null subject *pro*, schematically illustrated in (47).

(47) Pseudo-sluicing involves a non-elliptical structure with a base-generated null subject

... but I don’t know [*pro shi/hai wh*]

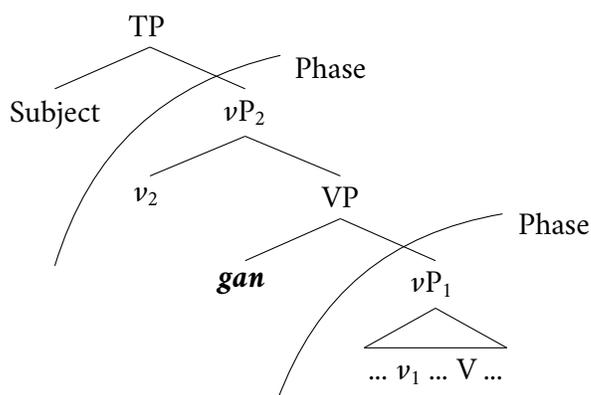
Without going into the other arguments for this analysis, what is relevant to us here is that the suggestion that ellipsis privileges phases provides an explanation on why Mandarin and Cantonese lack English-style sluicing. This is because TP ellipsis is unavailable in these languages.<sup>29</sup>

29. We acknowledge that this is not the only explanation to the lack of sluicing. See Li and Wei (2017) for another explanation that attributes the lack of sluicing to the lack of focus movement that fronts the *wh*-expressions to the initial position, i.e., initial positions host topics, instead of focused elements.

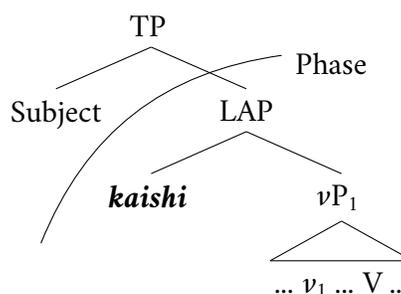
### 4.3.3 Against an alternative anti-locality approach to VP movement and ellipsis

A potential alternative approach to derive the licensing conditions of VP movement and ellipsis resorts to the Anti-Locality Condition (Abels 2003), which need not rely on the privileged status of phases. Recall the structural difference between sentences with a modal verb and an aspectual verb discussed in §3.3.1, repeated below in (48) and (49).

(48)  $\nu P_1$  and  $\nu P_2$  are phases in (25a)



(49) LAP is a phase in (25b)



In order to account for the (un)movability of  $\nu P_1$  in the two different structures, one might resort to the Anti-locality Constraint (Abels 2003), which disallows movement that is too “local” (such as complement-specifier movement). It might be suggested that while the  $\nu P_1$  in (48) could exit the higher phase ( $\nu P_2$ ) by moving into Spec  $\nu P_2$ , the  $\nu P_1$  in (49), however, could not exit the phase (LAP) by moving into Spec LAP, because it is too “local” (i.e.,  $\nu P_1$  is the complement of the phase head *kaishi*). This also seems to deliver the contrast in the two structures.

We offer an empirical argument in favor of the phases-are-privileged account over the anti-locality account. To set up a relevant example, observe that it is possible to stack aspectual verbs in a sentence, resulting in multiple LAPs.

(50) A sentence with multiple LAPs

Gaa-sanman [<sub>LAP</sub> **gaizuk** [<sub>LAP</sub> **hoici** [<sub>VP</sub> hai mongsoeng maanjin]]] [C]

fake-news continue begin at web spread

‘Fake news continues to begin to spread on the web.’

In such case, the higher LAP (boxed) headed by *gaizuk* constitutes a phase, but not the lower LAP headed by *hoici*. Crucially, the phases-are-privileged account predicts that movement of  $\nu$ P is still impossible, because it is not a phase. On the contrary, the anti-locality account predicts the opposite: since the  $\nu$ P is no longer the complement of a phase head, it may move into the Spec LAP headed by *gaizuk* without violating anti-locality. The example in (51) shows that the prediction made by the former is borne out: the  $\nu$ P cannot be fronted. As such, we maintain that the proposed phases-are-privileged account is superior to the anti-locality account.

(51) A sentence with multiple LAPs do not allow VP movement

\*<sub>[ $\nu$ P</sub> Hai mongsoeng maanjin], gaa-sanman [LAP **gaizuk** [<sub>LAP</sub> **hoici**  $\Delta$ ]] [C]  
 at web spread fake-news continue begin  
 Int.: ‘Fake news continues to begin to spread on the web.’

## 5 Apparent counter-examples

### 5.1 The epistemic restriction and the syntax of epistemic modals

Recall that there is an apparent counterexample to our proposal. Consider again sentences with the epistemic modals *keneng/honang* ‘be.possible/possibly’ in (9), repeated below as (52). They do not license VP movement or ellipsis.

(52) *Keneng/honang* do not license VP movement or ellipsis = (9)

- a. \*[Hui qu xianchang] Akiu **keneng**  $\Delta$ .  
 will go town Akiu possibly  
 Int.: ‘It is possible that Akiu will enter the town.’ (cf. Tsai 2015, p.283)
- b. \*Aaming honeng [joeng-zo zek maau]. Aafan dou **honang**  $\Delta$ .  
 Aaming be.possible keep-PERF CL cat Aafan also be.possible  
 Int.: ‘It is possible that Aaming keeps a cat. It is possible that Aafan does so too.’

These examples appear to challenge the proposed analysis: they are heads (V heads or Modal heads above HAP) that do not reside in LAP. Recall also that under the classification by C.-T.J. Huang (2022) (see Table 4), *keneng* ‘be.possible’ in Mandarin takes CP (Type I) complements (hence movable and elidable).

Before offering an explanation, we remark that the inability to license VP movement and ellipsis appears to be a general property of epistemic modals.<sup>30</sup> Consider the modal expression *jinggoi* ‘should’ in Cantonese, which is ambiguous between a deontic reading and an epistemic reading. In (53a), an epistemic reading of *jinggoi* is forced by the perfective marking in the complement clause, and VP ellipsis in the second clause is disallowed. On the contrary, the *jinggoi* in (53b) conveys a deontic reading, and VP ellipsis is allowed.

(53) The contrast between epistemic *jinggoi* and deontic *jinggoi*

- a. ni-po faa **jinggoi** [hoi-zo], \*go-po faa dou **jinggoi** Δ [C]  
 this-CL flower should blossom-PERF that-CL flower also should

Int. *epistemic* reading: ‘This flower should have blossomed. That flower should (have), too.’

- b. ni-po faa **jinggoi** [sung bei jan], <sup>OK</sup>go-po faa dou **jinggoi** Δ [C]  
 this-CL flower should give to person that-CL flower also should

*Deontic* reading: ‘This flower should be given out. That flower should, too.’

If the complement clause of epistemic modals are CPs (Type I), then why ellipsis is possible? We suggest that CP ellipsis (and presumably CP movement) is additionally constrained. That is, the failures of CP ellipsis in (52) and (53) are due to independent factors. Y.-H. A. Li (2005, 2007, 2014) has argued that the possibility of CP ellipsis, or null CP object, is correlated with the subcategorization property of the predicates. She arrives at the generalization in (54).

(54) Conditions on empty clausal objects (Y.-H. A. Li 2014, p.61)

- a. If a verb is subcategorized for a clausal as well as a nominal object, the object can be empty.

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30. The epistemic restriction on ellipsis is also observed in English, see Gergel (2009) for discussions and references therein.

- b. If a verb is subcategorized only for a clausal object, the object cannot be empty.

In other words, CP ellipsis is subject to an additional requirement: only verbs that can take nominals allow CP ellipsis. In (44), we have seen that the CP complement of *faxian* ‘discover’ in Mandarin and *soengseon* ‘believe’ in Cantonese can be fronted or elided. These verbs can also take an nominal object.

(55) Verbs allowing CP fronting/ellipsis can take nominal objects

- |   |  |
|---|--|
| <p>a. Wo <b>faxian</b>-le yi-jian shi. [C]<br/>         I discover-PERF one-CL thing<br/>         ‘I discovered one thing.’</p> | <p>b. Ngo <b>soengseon</b> keoi. [C]<br/>         I believe s/he<br/>         ‘I believe him/her.’</p> |
|---|--|

However, neither *keneng* nor *honang* or the epistemic *jinggoi* can take a nominal object. This suggests that the failure of epistemic modals to license CP ellipsis is due to their inability to subcategorize for a nominal object.<sup>31</sup>

(56) Epistemic modals do not take nominal objects and do not license movement/ellipsis

- |  |  |
|--|--|
| <p>a. *<b>Keneng</b> zhe-jian shi. [M]<br/>         be.possible this-CL thing<br/>         Int.: ‘This thing is possible.’</p> | <p>b. *Aaming <b>jinggoi/ hongang</b> ni-gin si. [C]<br/>         Aaming should be.possible this-CL thing<br/>         Int.: ‘Aaming should/may (be/do) this thing.’</p> |
|--|--|

As such, the inability of epistemic modals to license CP movement and ellipsis does not challenge our proposal. CP ellipsis appears to have an additionally licensing condition that is not observed with VP ellipsis. For space reasons, we leave further investigation into this asymmetry to future research.

## 5.2 Implications on the derivation of right dislocation

Another set of observations that appears to challenge our proposal concerns some cases of right dislocation in Cantonese. Consider the sentences in (57), where the VP can be separated from Type B

31. See Y.-H. A. Li (2014) for an explanation of the generalization in (54).

aspectual elements, such as the progressive marker *hai-dou* and the aspectual verb *hoici* ‘begin’.

(57) a. Progressive marker

[simsim-haa] aa3 zaan dang **hai-dou**.

flicker-DEL SFP CL light PROG

‘The light is flickering.’

b. Aspectual verbs

[maanmaan bin wong] laa3 po faa **hoici**.

slowly change yellow SFP CL flower begin

‘The flower begins to turn yellow slowly.’

These examples are potentially problematic to our proposal under a particular analysis of right dislocation in Cantonese. Cheung (2009) argues that cases like (57), which he dubbed as *Dislocation Focus Construction*, involve focus movement to the front of the sentence-final particles. Schematically, the sentences in (57) is derived by fronting the (focused)  $\nu$ P, stranding both the subject and the aspectual elements. This appears to constitute a case of VP movement of non-phases.

(58) The derivation of (57) under the proposal in Cheung (2009)

$\nu$ P SFP Subject [<sub>LAP</sub> **hai-dou/hoici** [ <sub>$\nu$ P</sub> ... ] ]



Focus movement

However, it should be noted that not only Type B aspectual elements allow such movement, the aspectual adverb *jiging* ‘already’ and the epistemic modal *honang* ‘be.possible’ also allow the movement.

(59) a. Aspectual adverbs

[zaau-zo] laa3 keoidei **jiging**.

leave-PERF SFP they already

‘They already left.’

b. Epistemic modals

[lok jyu] wo3 tingjat **honang**.

fall rain SFP tomorrow be.possible

‘It may rain tomorrow.’

In other words, the suggested  $\nu$ P movement involved in DFC appears to be exempted from *all* licensing conditions on VP movement we have seen so far. Positing that different types of VP movement in Cantonese are subject to different licensing conditions does not seem to be a plausible option, as we lose important generalizations on the licensing conditions of VP movement.

One way to maintain the uniformity of the licensing conditions of VP movement and ellipsis is to suggest that what is moving in (57) and (59) is not a  $\nu$ P, but a CP. Substantially, we can assume with Lee (2017) in that right dislocation may involve multiple leftward movement. In effect, the subject and the aspectual elements (and also adverbs and epistemic modals) may first move to the left periphery below the sentence-final particles.<sup>32</sup> Then, the rest of the clause (the remnant CP) move altogether to the front of the SFP. This would derive the correct surface word order in these cases.

(60) The derivation of (57) under the proposal in Lee (2017)

CP SFP Subject<sub>i</sub> **hai-dou/hoici<sub>i</sub>** [CP t<sub>i</sub> t<sub>j</sub> ... ] ]  

 An arrow points from the subject position 'Subject<sub>i</sub>' to the CP position 'CP', indicating movement.

Supporting evidence comes from the observation that the movement of the subject and aspectual elements is independent of each other. For example, it is possible that only *hoici* ‘begin’ moves to the left periphery, and the subject stays within the CP and moves together with the rest of the clause (as a discontinuous string).<sup>33</sup>

(61) [po faa maanmaan bin wong] laa3 **hoici**  
 CL flower slowly change yellow SFP begin  
 ‘The flower begins to turn yellow slowly.’

(62) The derivation of (61) under the proposal in Lee (2017)

CP SFP **hoici<sub>i</sub>** [CP Subject t<sub>i</sub> ... ]  

 An arrow points from the subject position 'Subject' to the CP position 'CP', indicating movement.

If this reasoning is on the right track, then the sentences in (57) need not be a challenge to our proposal. Furthermore, this appears to be an argument in favor of the multiple-step derivation of right dislocation advocated in Lee (2017) over the single-step derivation advocated in Cheung (2009). We will leave further comparison and justification of the two approaches to right dislocation to future research.

32. Verbs/Heads are argued to be able to under movement on their own in right dislocation; see Lee (2017).

33. Movement of such a discontinuous string also posits a challenge to Cheung’s analysis of right dislocation. For discussions, see Lee (2017).

## 6 Conclusions

In this paper, we set out to examine the licensing conditions of VP movement and ellipsis in Mandarin and Cantonese. Building on previous works that suggest head licensing is crucial to VP movement and ellipsis, we further suggested that head licensing is only a necessary, but not a sufficient licensing condition. A closer examination into (pre-verbal) aspectual elements reveals that there are heads that fail to license VP movement and ellipsis. We proposed that a further licensing condition is that the verb phrases that undergo movement or ellipsis must additionally be a *phase*. This amounts to the suggestion that phases are privileged in licensing VP movement and ellipsis in these languages. Crucially, the privileged status of phases are further reflected in phenomena beyond VP movement and ellipsis in Mandarin and Cantonese, including the lack of V-stranding VP ellipsis, the lack of (English-style) sluicing, and the CP-TP asymmetry in movement and ellipsis. As for other theoretical implications, our proposal lends further support to a contextual/dynamic approach to phasehood, where the boundary of the clause-internal phase is not determined once and for all, but displays certain flexibility during the syntactic derivation. Additionally, the findings in this paper echoes the suggestion in Harwood (2015) that certain (low) aspect projection has a unique status in setting the upper boundary of the clause-internal phases. We attempted to provide a semantic basis for such a split (i.e., perfectivity/boundedness vs. imperfectivity/unboundedness), and we suggested that the first phase must not be too small to exclude projections involving imperfectivity/unboundedness.

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