The privileged status of phases:
licensing VP movement and ellipsis in Chinese

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August 19, 2024

Abstract

This paper argues for the privileged status of phases in licensing movement and ellipsis of verb phrases (VPs) in Chinese, based on data from both 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 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.

Keywords: VP movement, VP ellipsis, licensing conditions, phases, aspectual elements, Chinese

Contents

1 Introduction

This paper argues for the privileged status of phases (in the sense of Chomsky 2000, 2001) in licensing movement and ellipsis of verb(al) phrases (VPs) in Chinese.[1] 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* in Mandarin and Cantonese reveals that not all head elements license VP movement and ellipsis. An illustrative pair of examples is given in (1).

(1) <u>An asymmetry in VP fronting in Mandarin</u>

    a. [Qu xiancheng] Akiu keneng **hui** Δ.

        go town   Akiu possibly will

        'Go to town, Akiu possibly will.'   (Tsai 2015, p.283)

    b. *[Yigeren da   lanqiu],   Zhangsan **zai**   Δ.

        alone   play basketball Zhangsan PROG

        Int.: 'Zhangsan is playing basketball alone.'

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

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

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

Before we proceed, we should make it clear that this paper aims not to compare and contrast VP movement and ellipsis in Mandarin and Cantonese. Rather, we hope to establish a solid basis of the relevant licensing conditions in two similar but different languages. Furthermore, incporporating two Chinese languages allow us to extend the discussions to the less discussed VP postposing, in addition to VP fronting. For idiosyncratic reasons, the two languages differ in the inventories of (pre-verbal) aspectual elements, which beneficially supplement the discussions.

2   When are VP movement and ellipsis possible?

We first 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   Head licensing as a necessary condition

Following much previous studies, head licensing is regarded as a necessary condition for both VP ellipsis and VP fronting in English (Lobeck 1995; Merchant 2001; Johnson 2001; Larson 2022, i.a.). Par-

allel data are reported in Mandarin as well (C.-T. J. Huang 1993; Tsai 2011, 2015; Law and Ndayiragije 2017; S.-W. Tang 2022b). This can be illustrated by the observation that a verb phrase in Mandarin can be fronted or elided when it follows modal verbs. Relevant examples are repeated from the literature in (2) and (3). The modal elements are argued to be *verbs*, hence heads, in Lin and Tang (1995), Huang, Li, and Li (2009), and T.-H. J. Lin (2011).[2]

(2) Modal verbs license VP fronting[3]

    a. [Qu xiancheng] Akiu keneng **hui** Δ.   [M(andarin)], =(1a)

        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** Δ.   [M]

        at   party up   sing one-CL song I   not dare

        'I dare not to sing a song at the party.'

(3) Modal verbs license VP ellipsis

    a. Wo [jian-guo ta   sanci]   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.[4]

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2. In this paper, we treat modal/auxiliary verbs as *lexical* verbs, instead of functional categories. However, our ultimate proposal does not hinge on this assumption. See footnote 22 in §3.3.2 for discussions.

3. The symbol Δ is adopted to represent the trace or the elided site of the bracketed VPs. In this paper, we do not distinguish the precise nature of the empty categories in this paper.

4. It should be remarked that the verb vs. adverb distinction in Chinese is not always clear, since there is no overt morphological marking on verbs or adverbs. Expressions like *bixu* 'obligatorily' and *yiding* 'definitely' are traditionally

(4)   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 surely

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

                                              (Law and Ndayiragije 2017, p.692)

(5)   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)

The Cantonese counterparts of (2)-(5) show an identical pattern and we do not list them out for space reasons.

The verb-adverb distinction illustrated in (2)-(5) follows from the suggestion that both VP fronting and ellipsis require head licensing. While the discussions in the literature primarily focus on fronting/ellipsis and modal elements, we show below that the picture is indeed more general: the head licensing requirement receives additional support from (i) a related phenomenon, namely, VP postposing, and from (ii) non-modal elements.

In Cantonese, a VP can be "postposed", i.e., right dislocated to a position after the sentence-final

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regarded as adverbs. They are also excluded from the set of modal verbs in Lin and Tang (1995) and Huang, Li, and Li (2009). We assume with the literature that they are adverbs. But see further discussions at the end of this section and §5.1. See also T.-C. Tang (2000) for extensive discussions.

particle (Cheung 2009; Lee 2017, 2024). We refer to this as *VP postposing*.[5] Importantly, the licensing condition of VP postposinig exhibits a similar verb-adverb distinction.[6]

(6) The verb-adverb distinction in VP postposing

    a. Aaming **wui**/ *__jatding__ Δ aa3 [faan   Hoenggong].   [C(antonese)]

       Aaming will/ surely   SFP go.back Hong Kong

       'Aaming will/ surely go(es) back to Hong Kong.'

    b. Ni-go haap tenggong **hoji**/ *__bitseoi__   Δ wo5 [fong-jap meibolou   ding].   [C]

       this-CL box hear   may/ obligatorily   SFP put-into microwave heat

       'It is said that this box can/ must be heat up in a microwave.'

Furthermore, the verb-adverb distinction is not restricted to modal elements. For example, control verbs are able to licensing VP movement (both fronting and postposing) as well as VP ellipsis.[7]

(7) Control 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.'

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5. Mandarin also allows postposing/right dislocation, see Chao (1968), Packard (1986), and Cheung (2009), i.a. But Cantonese is known to be more tolerant to such constructions. We thus focus on Cantonese in this regard.

6. To sound entirely natural, postposing/right dislocation typically requires a context where the postposed elements are given/backgrounded/not contrastively focused (Lee 2017, 2020). We set this issue aside.

7. As we will see in §4.3, not all clause-taking verbs license VP movement/ellipsis, as they are subject to additional conditions. The examples in (7) (and (8)) are intended to show that the head licensing condition is not specific to modal elements.

However, manner adverbs and aspectual adverbs fail to license VP movement and ellipsis. For example, the Mandarin adverb *zixi* 'carefully' in (8a) cannot be license VP fronting. The sentence is acceptable without *zixi*, where VP fronting is licensed by the modal *neng* 'be.able'. In (8b), the Cantonese adverb *jiging* does not license VP ellipsis. The sentence is acceptable with the copula *hai* to convey the intended meaning.

(8) 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. '

Indeed, this restriction can be further illustrated with adverbials suffixed by a manner marking. As is well known, the distinction between verbs and adverbs is not always clear in Chinese languages. However, some adverbs allow a manner marking that is incompatible with verbs. The marking is realized as *gam* in Cantonese and *de* in Mandarin, both of which follow a (bare) adverb, forcing a manner reading (Sio and Tang 2007). Using Cantonese as an example, consider (9).

(9) *Gam* in Cantonese serves as a manner adverbial marker   (p.57)

    Keoi hou **minghin(-gam)** beihoi nei.   [C]

    3SG very clearly(-GAM)   avoid you

    (i) Without *gam*: 'He/She is clearly avoiding you.' (clausal reading)

    (ii) With *gam*: 'He/She is avoiding you in a very clear manner.' (manner reading)

As such, it is now obvious that elements that can be suffixed by *gam* must be an adverb. Crucially, a *gam*-marked adverb disallows VP ellipsis.[8]

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8. Indeed, (10) is unacceptable even without *gam*, showing *minghin* 'clearly' is an adverb as well.

(10) Cantonese *Gam*-adverbs disallow VP ellipsis

    Keoi hou **minghin-gam** [beihoi nei]. *Aaming dou hou **minghin-gam** Δ   [C]

    3sg very clearly-GAM   avoid   you   Aaming   also   very   clearly-GAM

    Int.: 'He/She is avoiding you in a very clear manner. Aaming is, too.'

Taking stock, the observations above show that head licensing is *necessary* in licensing VP movement and ellipsis, as stated in (11). 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.

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

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

Before we proceed, we should remark that we intentionally skip the discussions surrounding two common modal elements. The first one is the epistemic modal *keneng* (Mandarin) and *honang* (Cantonese) 'be.possible'. Both of them fail to license VP movement or ellipsis, as shown in (12).

(12) *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.'

These facts follow if we assume with Pan and Paul (2014), Tsai (2015), and Matthews and Yip (2011) and treat the modals *keneng/honang* as adverbs. However, arguments have also been made for their predicate status (hence heads), see Y.-H. A. Li (1990), Lin and Tang (1995), T.-C. Tang (2000), Huang, Li, and Li (2009), T.-H. J. Lin (2011), and C.-T. J. Huang (2022). If so, these cases constitute counterexamples for the generalization in (11).

A second, related case should also be considered here: even the same modal may vary in its licensing ability, such as *jinggoi* 'should' in Cantonese (or *yinggai* in Mandarin). (13a) conveys an epistemic

reading, whereas (13b) conveys a deontic reading. Only the latter allows VP ellipsis.

(13) The contrast between epistemic *jinggoi* annd deontic *jinggoi*

    a.   Ni-po   faa   **jinggoi** [hoi-zo],   *go-po faa   dou **jinggoi** Δ.   [C]

         this-ᴄʟ flower should blossom-ᴘᴇʀꜰ that-ᴄʟ flower also should

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

    b.   Ni-po   faa   **jinggoi** [sung bei jan],   ᴼᴷgo-po faa   dou **jinggoi** Δ.   [C]

         this-ᴄʟ flower should give   to   person that-ᴄʟ   flower also should

         Deontic reading: 'This flower should be given out. That flower should, too.

We return to this issue in §5.1, where we will see that there is an additional restriction on epistemic modals when licensing VP ellipsis/movement. We maintain that (11) is a valid generalization in Chinese.

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 pre-verbal markers of (im)perfectivity, 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.

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, as in (14).[9] Likewise, the Cantonese counterpart of *you*, i.e., *jau*, and its negated form *mou* can license VP fronting, as shown in (15).

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9. The usage of *you* in (14a) is commonplace in Taiwan Mandarin, but not Northern Mandarin. We do not address the variation in this paper.

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

    a.   Zoutian   you   [xia yu],   jintian ye   **you** Δ.   [M]

        yesterday have faill 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)

(15) The perfective marker *jau* and *mou* 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.'

Furthermore, another negative perfective marker *mei* 'not.yet' in Cantonese is similar to *mou*, except that it conveys a more specific meaning: *mei* additionally implies the speaker's expectation that the event will eventually happen (Matthews and Yip 2011; S.-W. Tang 2022b). It allows both VP movement and VP ellipsis, as in (16). This follows from (11) if *mei* is a head, as argued in S.-W. Tang (2022b). The Mandarin counterpart *wei* behaves likewise, except that it is typically preceded by the adverb *hai* 'still,' as in (17).

(16) *Mei* 'not.yet' in Cantonese licenses VP movement and ellipsis   (p.329-330)

    a.   [Tai-jyun   bun syu], John jatding   **mei**   Δ.   [C], fronting

        read-finish CL book John definitely not.yet

        'Finished reading the book, John definitely has not yet.'

    b.   John mei [tai   syu], Mary jikdou **mei**   Δ.   [C], ellipsis

        John not read book Mary also   not.yet

        'John has not read books yet, and neither has Mary.'

(17)   <u>*Wei* 'not yet in Mandarin licenses VP ellipsis</u>

Zhangsan yiging [dao   jia]   le,   daan wo hai **wei**   Δ ne.   [M]

Zhangsan already arrive home SFP but   I   still not.yet   SFP

'Zhangsan has already returned home, but I haven't yet. '

However, when it comes to imperfective (progressive) markers, such as *zai* in Manadarin and *hai-dou* in Cantonese, neither VP movement or ellipsis is allowed.[10]

(18)   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).'

(19)   Progressive markers do not license VP movement

a. *[Yigeren da   lanqiu],   Zhangsan **zai**   Δ.   [M], fronting, =(1b)

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.'

It is at least clear for Mandarin *zai* that it heads a functional, aspect projection (Huang, Li, and Li 2009). It then indicates that not all heads license VP movement or ellipsis. It does not challenge

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10. The Cantonese *hai-dou* consists two morphemes, the copula *hai* and *dou* 'here'. It is ambiguous between a locative reading ('at here') and an aspectual, progressive reading. The second clause in (18b) is unacceptable on the aspectual reading, but it can have a locative reading: 'this light is also (physically) at here,' although this is pragmatically odd as a continuation of the first clause. For descriptions, see Chan (1996, p.278-290) and Matthews and Yip (2011, p.230-231).

the generalization in (11), but reaffirms it as a *necessary*, but not sufficient, licensing condition. This characterization is further corroborated by observations on aspectual verbs, which we discuss in the next subsection.

As for the status of *hai-dou* in Cantonese, it is less clear whether it is a head or a phrase, given its morphological component. If it is a phrase, then the unacceptability of (18b) and (19b) follows from (11). However, it is treated as a non-compositional element when used as a progressive marker in Matthews and Yip (2011). Chan (1996, p.286) also states that the aspectual *hai-dou* heads an Aspect Phrase, whereas the locative *hai-dou* is a modifying phrase. There is, as I argue, independent evidence that *hai-dou* is a lexicalized head, as its aspectual meaning disappears if *dou* is replaced (i) by *syu* (also 'here' but old-fashioned), or (ii) by *go-dou* 'there' (where *go* is a demonstrative).

(20)   The progressive marker *hai-dou* resists alternation of its sub-parts

Go-ngaan dang {hai syu/ hai go   dou} sim.

that-CL   light at   here at   that here flicker

Locative reading only: 'That light flickers here/there.' (*Aspectual reading: 'That light is flick-ering.')

These suggest that *hai-dou*, on a par with *zai*, indicates that the licensing conditions of VP movement/ellipsis are more fine-grained than (11).

2.2.2   Aspectual verbs

Before we discuss the pattern relating to aspectual verbs, a terminological note is in need. Following Perlmutter (1970) and subsequent works, I assume a raising vs. control distinction on a series of verbs like *begin* that convey aspectual meaning. The distinction can be exemplified by the sentences in (21). The raising *begin* is characterized by its compatibility with inanimate subjects (that lack volition/agentivity), whereas the control *begin* can be embedded under another control predicate (e.g., *try*), and can serve as the antecedent of the verbal anaphor *do so* (which requires agentivity).

(21)   a.   Raising *begin*: The noise **began** to annoy Joe.   (Perlmutter 1970, p.109)

        b.   Control *begin*: Warren tried to **begin** to work and Jerry tried to do so too.   (p.114)

A similar raising vs. control distinction is attested in Chinese aspectual verbs and modal predicates (Y.-H. A. Li 1990; Lin and Tang 1995; T.-H. J. Lin 2011). In what follows, I reserve the term *aspectual verbs* specifically for raising aspectual verbs as they are dedicated to impose aspectual meanings on its clausal complement.[11] By contrast, I refer to their control counterparts as *lexical (control) verbs with aspectual meanings*, for they select both an (agentive) subject and a clausal complement.

Against this background, we shall see that the distinction is crucial in our discussions of licensing conditions of VP movement/ellipsis. The sentences in (22) and (23) involves verbs meaning 'begin,' 'continue' and 'stop' in Mandarin and Cantonese. Note that all the sentences have an inanimate subject, and thus are aspectual verbs under our definition. Importantly, similar to progressive markers, all of them disallow their complement VP clauses to be (i) *fronted*; (ii) *elided* and (iii) *postposed*.

(22)   <u>Mandarin aspectual verbs do not license VP movement or ellipsis</u>

       a.   *[Manman bian hong] zhe-duo hua   **kaishi** △ ne.   [M], fronting

            slowly   turn red   this-CL   flower begin   SFP

            'This flower begins to turn red.'

       b.   *Gupiao jixu   [mei-nian pansheng], loujia ye **jixu**   △.   [M], ellipsis

            Stock   continue every-year rise   rent   also continue

            'Stock (prices) continue to rise every year; rents also continue.'

       c.   *Zhe-bu dianti turan   tingzhi [wang xia   yunhang] le,   na-bu   dianti ye

            This-CL lift   suddenly stop   go   down operate   SFP that-CL lift   also

               tingzhi △ le.

               stop   SFP

            Int.: 'This lift suddenly stopped going down. That lift also stopped '   [M], ellipsis

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11. As will be discussed in greater detail in §4.1, what we call "aspectual verbs" here is a misnomer, as they are arguably functional elements that head an Aspect Projection. In other words, we submit that they are not *verbs* at all, unlike its control counterparts. A similar suggestion on aspectual verbs in Japanese is also discussed in Fukuda (2012), for example.

(23) Cantonese aspectual verbs do not license VP movement or ellipsis[12]

   a. *Ni-go soenghau hoici [houfaan], daan go-go zung mei **hoici** △. [C], ellipsis

      this-CL wound begin recover but that-CL still not.yet begin

      Int.: 'This wound begins to recover, but that (wound) hasn't begun (to recover) yet.'

   b. *Po faa **gaizuk** △ laa3 [maanmaan bin hung]. [C], postposing

      CL flower continue SFP slowly turn red

      'The flower continues to turn red slowly.'

Important to our discussion here is a contrast with their control counterparts in this regard. As shown in (24), the same set of verbs, now used as a control predicate (which can be told by the animate subjects), can license VP movement and ellipsis.

(24) The control counterparts of aspectual verbs license VP movement and ellipsis

   a. [Hok jatman], ngo jatzik dou soeng **hoici** △, 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.'

   b. Ruguo ni jixu [xue yuyanxue], wo ye **jixu** △ ba. [M], ellipsis

      if you continue learn linguistics I also continue SFP

      'If you (will) continue to learn linguistics, I (will) continue (to do so), too.'

   c. Yanlei, [wuyishi-de pinming liu] wo ye xiang **tingzhi** △. [M], fronting

      tear unconsciously crazily fall I also want stop

      Lit.: 'Tears, falling down like crazy, I also want to stop.'

                                                              (forum, accessed on August 15, 2024)

The contrast between (22)/(23) and (24) suggests that the inability to license VP movement and el-lipsis is directly linked to the aspectual usage of these verbs. Note that the inability of licensing VP movement and ellipsis should be not attributed to the raising property of these verbs. This is because

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12. For idiosyncratic reasons, there is no natural counterpart of *tingzhi* 'stop' in Cantonese.

raising modals (with an inanimate subject) can license VP movement, as we have already seen in (6b).

While it might be tempting to conclude that all aspectual verbs fail to license VP movement and ellipsis, this is however not the case if we 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' or 'once'. 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 control verb *si* 'try', it does not require an animate subject and the associated event need not be controllable. An example is given in (25).[13]

(25) An example of *si-gwo* 'try-EXP'

Ni-po   faa   **si-gwo** hoi-coet   do zi-faa   lei.   [C]

this-CL flower try-EXP bloosom-out CL purple-flower come

'This plant once had a purple flower.'   (Mai and Tan 1997)

While the pre-verbal distribution and aspectual meaning of *si-gwo* are similar to aspectual verbs, it however differs from them in one crucial aspect: *si-gwo* can license VP movement and ellipsis, as shown in (26).

(26) *Si-gwo* 'try-EXP' licenses VP movement and ellipsis

a. [Linzuk   lok sap-jat jyu], jinghai ni-dou   **si-gwo** Δ zaa3.   [C], fronting

consecutively fall ten-day rain only   this-place try-EXP   SFP

'Only this place is such that it once rained for ten consecutive days.'

b. Ni-gaan fong si-gwo [fatcoet gwaai-mei].   Go-gaan dou **si-gwo** Δ.   [C], ellipsis

this-CL   room try-EXP give.off strange-smell that-CL   also try-EXP

'This room once gave off strange smell. That one did, too.'

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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 its internal structure cannot be altered.

Now we turn to the second case, *kip-zyu*, which is similar to *si-gwo* in terms of morphological structure. It consists of the English loanword *kip* (from *keep*) and the durative marker *-zyu*, and it conveys a continuative meaning of an event/situation.[14] Also, it does not require an animate subject and the event/situation need not be controllable. (27) provides two natural-occurring examples, illustrating these properties.

(27) Examples of *kip-zyu* 'keep-DUR'

   a. Go   soenghau **kip-zyu**   samhyut.   [C]
       CL   wound   keep-DUR bleed

       'The wound keeps bleeding.'   (novel, accessed on August 17, 2024)

   b. Jung-jyun zihau, gin saam   **kip-zyu** 12 sengkei dou gaam hoeng.   [C]
       use-finish after CL clothes keep-DUR 12 week   DOU very fragrant

       'After (you) use it, the clothes will keep being fragrant for 12 weeks.'

                                         (personal blog, accessed on August 17, 2024)

Although *kip-zyu* is similar to *si-gwo* in the above aspects, it fails to license VP movement or ellipsis, as shown in (28).

(28) *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

The data in this subsection posit two puzzles to the licensing conditions of VP movement/ellipsis. The first one is similar to our discussion of (im)perfectivity markers, i.e., being a verb/head is only a

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14. Similar to *si-gwo*, the subparts of the expression cannot be altered. For example, *-zyu* in sentences in (27) cannot be replaced by other suffixes such as the progressive *-gan*.

necessary, but not sufficient, condition to license VP movement/ellipsis. Second, the heterogeneous properties of aspectual elements discussed in this subsection call for an analysis on what crosscuts these elements into two types.

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.

(29)   <u>The necessary licensing condition of VP movement and ellipsis</u>   =(11)

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 types. 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)	*you*	*jau*	'have' / PERF
	mei-you	*mou*	'not-have/not.have'
	wei	*mei*	'not.yet'
	/	*si-gwo*	'try-EXP'
Type B (non-licensing elements)	*zai*	*hai-dou*	PROG
	kaishi	*hoici*	'begin'
	jixu	*gaizuk*	'continue'
	tingzhi	/	'stop'
	/	*kip-zyu*	'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.[15] The primary puzzle is why Type B aspectual elements, despite being heads, is exceptional in failing

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15. We use "lexical verbs" as a cover term for modal verbs and control verbs discussed in this section.

to license VO movement and ellipsis. 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 clausal structure contains at least C, T, v and V, ordered in a way depicted in (30). By default, it consists of two phase heads, C and v, and each of them constitutes a phase, i.e., CP and vP, but we will see shortly that the status of a phase is not set once and for all.

(30) C and v are phase heads, and CP and vP are phases

$$\boxed{\text{CP} \gg \text{TP} \gg \boxed{v\text{P} \gg \text{VP}}}$$
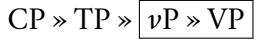
We assume the presence of the syntactic T head (Sybesma 2007; Tsai 2008; N. Huang 2015; Law and Ndayiragije 2017; C.-T. J. Huang 2022).[16] However, the label T/TP bears minimal theoretical commitment. It might be any functional projection between CP and vP, as long as it is the (non-phasal) complement of C.

Furthermore, we maintain the well-received assumption 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).

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

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. Rougly, the split is both a syntactic one and a semantic one that delimits what falls into the core predicational layer. This is schematically represented in (31).

(31)   The proposed clausal structure in Chinese

      ... » **High-AspectP** » **Low-AspectP** » vP » VP

The suggestion that the aspect projection may split in Mandarin 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 present 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 vP) depends on whether Low-AspectP is projected. In other words, Low-AspectP must be included in the first (clause-internal) phase.

(32)   Variable phasehood on the clause-internal phase

    a. vP is a phase when Low-AspectP is not projected. $\boxed{\text{CP » ... » } \boxed{v\text{P » VP}}}$

    b. (The highest) Low-AspectP is a phase when projected. $\boxed{\text{CP » ... » } \boxed{\text{LAP » } v\text{P » VP}}}$

Note that similar variation does not apply to High-AspectP, or other higher projections. We will provide further justifications on why this asymmetry holds in §4.2.[17]

The last ingredient in our proposal is that *VP movement and ellipsis privilege phases in Mandarin and Cantonese*. Note that this does not hold, for example, in English, as argued in Bošković (2014)

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

and Harwood (2015). Put differently, in Mandarin and Cantonese, the verbal projection undergoing movement and ellipsis must be a phase. Similar ideas have been suggested in other languages 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   Low-Aspect heads vs. lexical verbs

Recall that lexical verbs (modal verbs or control 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 (33).

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

   a.   [Zai yanhui shang chang yi-shou ge]   wo bu **gan** △.   [M], =(2b)
        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** △ ne.   [M], =(22a)
        slowly   turn red   this-CL flower begin   SFP
        'This flower begins to turn red.'

(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.

While the modal verb *gan* heads a verbal projection, i.e. VP,[18] 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.[19]

(34) a. The structure of (33a): Subj $[_{vP2}$ ***gan*** $[_{vP1}$ ... $]]$ Bi-clausal structure

b. The structure of (33b): Subj $[_{LAP}$ ***kaishi*** $[_{vP}$ ... $]]$ 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 (35) (selected by *gan*) is a phase, as the LAP is not projected. On the other hand, the vP_1 in (36) is selected by *kaishi*, which projects the LAP. Accordingly, the LAP constitutes a phase, instead of the vP_1.
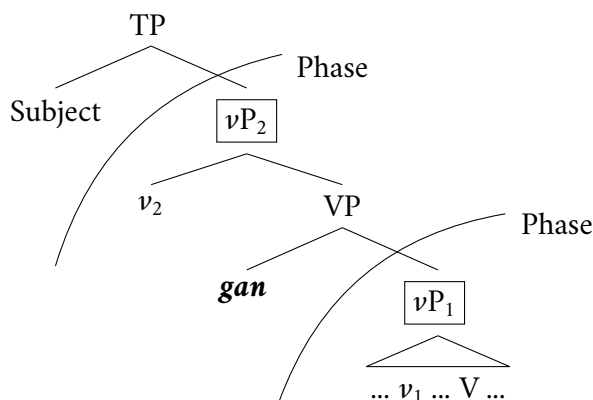
(35) vP_1 and vP_2 are phases in (33a)   (36) LAP is a phase in (33b)
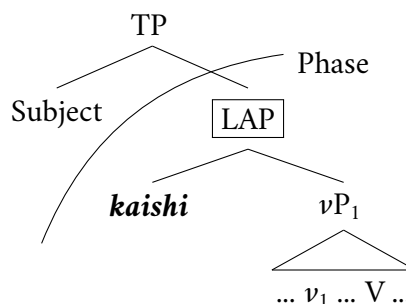
The crucial difference between the two structures is the status of vP_1. While it is a phase in (35), it is not in (36). This is where the last ingredient of the proposal comes into play. We suggest that in Mandarin (and Cantonese), only phases can under VP movement. This explains why VP fronting (precisely the fronting of vP) is allowed in *hui*-sentences but not *kaishi*-sentences. It also accounts for cases relating to VP postposing (in Cantonese), as it arguably also involves movement of vP (Lee 2017, 2024).

As for the observations concerning VP ellipsis, we suggest that VP ellipsis in Mandarin and Cantonese similarly privileges phases, such that it can target vP_1 in (35) but not vP_1 in (36). Note that

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18. It is also possible that the modal heads a functional projection, e.g., ModalP, and take a vP complement. See footnote 22 and discussions in §4.3.

19. 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 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. We attribute the lack of flexibility in ellipsis site to a parametric difference between Chinese and English.[20] [21]

3.3.2 Low-Aspect heads vs. 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 (due to ([32](#))). In other words, LAP marks the upper boundary of the clause-internal phase, as illustrated in ([37](#)).

(37) The proposed division of the clausal spine

CP » TP » HAP » $\boxed{\text{LAP » }v\text{P » VP}}$

Recall the Mandarin examples in ([14](#)), repeated below in ([38](#)). The perfective marker *you* and *mei-you*, as we propose, head the HAP. VP ellipsis in both cases is possible.

(38) The perfective marker *you* in Mandarin license VP ellipsis   =([14](#))

    a.   Zoutian   you   [xia yu],   jintian   ye   **you** Δ.   [M]

           yesterday   have   faill 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).'

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 vP) is a phase (which can be moved or elided).

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

21. The similarities between VP movement and VP ellipsis may not be a mere coincidence. It has been suggested that vP ellipsis potentially involves a previous step of vP movement (or vP topicalization) before ellipsis (Johnson [2001](#); Aelbrecht and Haegeman [2012](#)). See also **Fujiwara:2022** for a movement approach to ellipsis. We leave this to future research, however.

Schematically, this idea is represented in (39).[22]

(39) The phasehood of *v*P or LAP does not extend to HAP

TP
Subject   HAP   Phase
you/*mei-you*   LAP/*v*P
                  ... LA/*v* ... V ...
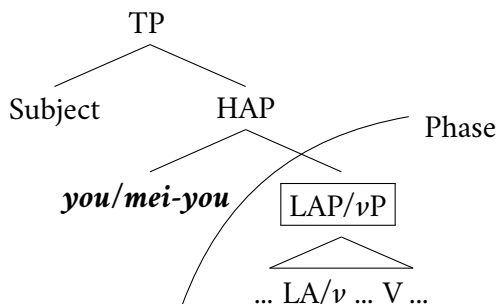
We postpone to §4.2 the discussions of why LAP appears to be unique in setting the upper boundary of the clause-internal phase. We stress that the three ingredients of the proposal adequately derive the licensing conditions of VP movement and ellipsis as revealed in §2.

4   Supporting evidence for the proposal

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

4.1   A split aspect analysis

We suggested that the aspect projection above the *v*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

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22. We suggested earlier that we are not committed to the lexical status of modal verbs. This is because if they are indeed functional heads, e.g., ModalP (Wurmbrand 2001) or MP (Tsai 2015), and situate above HAP, as in (i) below, they would be able to license VP movement and ellipsis as long as the High-Aspect heads are also phase heads.

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

CP » TP » ModalP » HAP » LAP » *v*P » VP

aspectual markers" (p.105).[23] Our proposal adds to this suggestion in 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).[24] The empirical evidence comes (i) co-occurrence and (ii) ordering restrictions of these aspectual elements. In the examples in (40a), 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 (40b).

(40)   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 control verbs; see §2.2).[25] Distinguishing these categories in Mandarin and Cantonese is not an easy task. A piece of suggestive evidence for the distinction comes from verbal suffixation. Aspectual verbs (indicated by inanimate subjects in (41a)) fail to take verbal suffixes. However, if they are used as control verbs (indicated by animate subjects in (41b)), they can take verbal suffixes.[26] Compare the two sentences with *kaishi* 'begin' in (41):

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23. For discussions on split aspect analyses in other languages, see also Travis (2010).
24. We do not discuss structural position of verbal suffixes in this paper. They might be in LAP, or head a separate aspect projection.
25. In our view, aspectual "verbs" are not verbal categories, but we continue to use this label for convenience.
26. A similar contrast is reported in Grano (2015, p.158). Note also that Grano treats control verbs as functional heads in general, but the contrast here suggests that aspectual verbs appear to be "more functional" (or other control verbs are just "semi-functional".

(41) a. *Kaishi* used as an aspectual verb

  ??Zhe-duo hua   **kaishi**-*le*   manman bian hong.   [M]

  this-CL   flower begin-PERF slowly   turn red

  Int.: 'This flower began to turn red slowly.'

b. *Kaishi* used as a control verb

  Ta   toutou **kaishi**-*le*   gan laoshi xue   riyu.   [M]

  S/he   secretly begin-PERF with teacher learn Japanese

  'S/he has begun to learn Japanese from (some) teacher secretly.'

Note that there is general ban on aspectual verbs co-occurring with perfective marking. For example, they can be modified by the aspectual adverb *yijing* 'already' as in (42).

(42) zhe-duo hua   *yijing*   **kaishi** manman bian hung   [M]

  this-CL   flower already begin   slowly   turn red

  'This flower already began to turn red slowly.'

It should be remarked that the two aspectual verbs in Cantonese, namely, *si-gwo* 'try-EXP' and *kip-zyu* 'keep-DUR', come with a verb suffix. However, it has been suggested that these elements are lexicalized as one (idiomatic) unit and their sub-parts cannot be altered, i.e. the suffix in these expressions cannot be replaced by other suffixes (Wu (2020); see also §2.2.2). Crucially, *kip-zyu*, for example, can take an additional suffix when used as a transitive verb, as in (43b), but not when used as an aspectual verb, as in (43a).

(43) a. *Kip-zyu* used as an aspectual verb

  *Go   soenghau **kip-zyu**-*zo*   samhyut.   [C], cf. (27a)

  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] |

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 suffixes distinguishes aspectual verbs from their control counterparts. We attribute this correlation to the functional-lexical status of the aspectual verbs: aspectual verbs are functional categories (heading a LAP), and thus fail to take verbal suffix, whereas their control counterparts are lexical verbs, (heading a vP), hence compatibility with verbal suffixes.[27]

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 boundary of the clause-internal phase

With regard to the proposed variation in the phasehood in the verbal domain, we suggested in (32) that LAP is unique in the sense that it sets the boundary of the clause-internal phase. Informally speaking, while the phasehood of vP may "pass on" to LAP (when projected), it does not go further to HAP. We have empirically motivated such a property of LAP based on VP movement and ellipsis in §3.3.2, and we discuss further motivations for it in what follows.

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

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27. We acknoledge that verbal suffixation may not be a known-down argument for a lexical-functional distinction, given that modal verbs are generally incompatible with verbal suffixes as well. One might suggest that modal verbs are indeed functional elements (contra Lin and Tang (1995)) or are semantically incomaptible with aspectual information in generally. However, we stress that the asymmetry observed with the same element in (41) and (43) would be suprising without positing a lexical-function distinction.

phase head).

(44) 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]

By way of illustration, consider the sentences in (45), 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 (45a) can be the phasal ProgressiveP (the structure including *be*) or the phasal complement of ProgressiveP (the structure excluding *be*). Crucially, in (45b), the complement of *being* cannot be elided, even though it is a *v*P. 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.

(45) 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, phasal status is supported by cross-linguistic observations.

Indeed, there is a plausible semantic basis that underlies the split. 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)	*you*	*jau*	'have' / PERF
	mei-you	*mou*	'not-have/not.have'
	wei	*mei*	'not.yet'
	/	*si-gwo*	'try-EXP'
Type B (non-licensing elements)	*zai*	*hai-dou*	PROG
	kaishi	*hoici*	'begin'
	jixu	*gaizuk*	'continue'
	tingzhi	/	'stop'
	/	*kip-zyu*	'keep-DUR'

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

We suggest that LAP is different from HAP in that the former belongs to 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). Type B elements focus on an interval (i) at the beginning/ending (inchoatic or terminative aspect) or (ii) between the beginning and end of an event (continuative or durative aspect). 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, termination, 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. They instead treat an event in its totality, and contribute to perfectivity or boundedness, i.e., events or states that have reached an endpoint. This squares well with perfective markers (and their negative counterparts). This applies as well to Cantonese *si-gwo*, which is similar to perfective markers and conveys a past occurrence of an event.

The proposed division of the clausal spine, as we argue, is semantically correlated with (im)perfectivity or (un)boundedness, and thus offers semantic motivation to differentiate 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, providing a plausible semantic foundation of clausal-internal phasehood.[28]

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28. Adopting the idea of extended projection (Grimshaw 2000), Bošković (2014) suggests that AspectP, but not higher

4.3 Movement and ellipsis privilege phases

In this last subsection, we discuss empirical evidence for how movement and ellipsis in Mandarin and Cantonese "privilege" phases. In our proposal, non-phasal clauses are predicted to fail to undergo movement or ellipsis. In §4.3.1, we contrast *v*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 Phasal *v*P vs. non-phasal VP

In Mandarin, it is argued that VP movement involves movement of a *v*P instead of a VP in Mandarin. C.-T. J. Huang (1993) 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'.[29] In (46a), 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 (46b), the VP containing *taziji*, but it can only be bound by the embedded subject.

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

    a. *NP/DP fronting*

        [taziji$_{i/j}$ de shi],   Zhangsan$_i$ xiwang Lisi$_j$ neng guan-yi-guan Δ.

        himself 's matter Zhangsan hope   Lisi can   care-a-little

        'His$_{i/j}$ own business, Zhangsan$_i$ hopes Lisi$_j$ will care for a bit.'

    b. *VP fronting*

        [piping   taziji$_{*i/j}$], Zhangsan$_i$ zhidao Lisi$_j$ juedui   bu **hui** Δ.

        criticize himself   Zhangsan knows Lisi definitely not will

        'Criticize himself$_{*i/j}$, Zhangsan$_i$ knows Lisi$_j$ definitely will not.'

---

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

   29. 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 (46b) to the idea 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 (47). 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 vP.

(47)   A (simplified) structure of (46b)

[$\boxed{t_j}$ piping taziji$_{*i/j}$], Zhangsan$_i$ ... Lisi$_j$ ... Δ

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 (48b), compared to NP/DP postposing in (48a). The contrast follows if VP postposing in Cantonese also involves a vP structure, instead of a VP one.

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

a.   *NP/DP postposing*

Aaming$_i$ waa Aawai$_j$ m-wui   maai Δ lo1 [keoizigei$_{i/j}$ ge   soeng].

Aaming   say Aawai   not-will buy   SFP self   MOD photo

'Aaming$_i$ said that Aawai$_j$ will not buy photos of himself$_{i/j}$.'

b.   *VP postposing*

Aaming$_i$ waa Aawai$_j$ m-**wui** Δ lo1 [maai keoizigei$_{*i/j}$ ge   soeng].

Aaming   say Aawai   not-will   SFP self MOD   photo

'Aaming$_i$ said that Aawai$_j$ will not buy photos of himself$_{*i/j}$.'

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 (49a) does not rule out the possibility that Peter brushed his teeth carelessly. Likewise, the second clause in (49b) allows a reading where I didn't teach English at all, despite the presence of the (post-verbal) adverb in the preceding clause.

(49) The lack of adjunct reading in NOCs

    a. John <u>zixide</u> 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 gaau-zo jingman <u>hounoi</u>, daan ngo mou gaau Δ.   [C]

       Aamng teach-PFV Enlgish for.long but I not.have teach

       'Aaming have taught English for a long time, but I didn't teach (English at all).'

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 (50), 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.

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

    ... [$_{vP}$ V-v [$_{VP}$ (adverb)   V   object   (adverb)]

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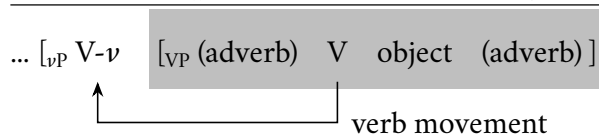
Importantly, it is left unexplained that why such a V-stranding VP ellipsis is unavailable in Mandarin and Cantonese, given that the mechanism is well attested in many other verb raising languages (cf. Goldberg 2005). We take the unavailability of V-stranding VP ellipsis in support of our proposal: such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

4.3.2 Phasal CP vs. 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 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.

On the basis of a number of diagnostic tests in Mandarin, C.-T. J. Huang (2022) proposes the following classification of complement clauses in Table 4, partially replicated from C.-T. J. Huang (2022, p.24). There are three types of verbal complements in Mandarin, and they are selected by different predicates.

Type I complements	Type II complements	Type III complements
faxian 'discover'	*dasuan* 'intend'	*kaishi* 'begin'
xiangxin 'believe'	*zhunbei* 'prepare'	*zixu* 'continue'
zhidao 'know'	*quan* 'persuade'	*neng* 'can'
shuo 'say'	*bi* 'force'	*gan* 'dare'
keneng 'be.possible'	*jihua* 'plan'	*keyi* '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 (51).[30]

(51)　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 ➜ *v*P

Against this background, we are now ready to see how CP complements contrasts with IP (or TP) complements in movement and ellipsis.[31] As suggested, verbs like *faxian* 'discover' and *xiangxin* 'believe' take CP (Type I) complements. Since CPs are phases, our proposal predicts that they can be

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30. 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.

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

moved or elided. This is borne out in both Mandarin and Cantonese.

(52) CP movement and ellipsis

    a. [Zhangsan mingnian qu liuxue], ni zuotian cai **faxian** △ ma? [M], fronting

        Zhangsan next.year go exchange you yesterday just discover Q

        'Did you just discovered that Zhangsan (will) go to exchange next year?'

    b. Ngo soengsoen [Aaming ci-zo zik], daan Aafan zunghai m-**soengsoen** △.

        I believe Aaming quit-PERF job but Aafan still not-believe

        'I believe that Aaming already resigned, but Aafan still doesn't believe (Aaming already re-

        signed.)' [C], ellipsis

Now consider verbs that select IP/TP (Type II) complements of verbs like *dasuan* 'intend', *zhunbei* 'prepare', *jihau* 'plan' 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 (53).

(53) No IP/TP movement or ellipsis

    a. *[Yang yi-zhi mao], Zhangsan kanlai {**dasuan**/ **zhunbei**} △. [M], fronting

        raise one-CL cat Zhangsan seem intend prepare

        Int.: 'It seems that Zhangsan intends to/ is going to raise a cat.'

    b. Aaming gaiwak [joeng jat-zek maau]. *Aafan dou **gaiwak** △.

        Aaming plan raise one-CL cat Aafan also plan

        Int.: 'Aaming plans to raise a cat. Aafan also plans (to do so).' [C], elllipsis

The contrast between (52) and (53) further confirms that movement and ellipsis privilege phases in Mandarin and Cantonese.

An additional piece of evidence comes from the lack of (English-style) *sluicing* in these languages. Let us consider the examples in (54) which exhibit the *sluicing*-like constructions in Mandarin and Cantonese (cf. the English translations).

(54) 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 as English sluicing (Merchant 2001). However, this analysis is challenged by a number of subsequent works in Wei (2004, 2011), Adams and Tomioka (2012), Li and Wei (2014, 2017), and Lee and Bai (2024), one motivation being the obligatory presence of the copula verb (as shown in (54)).[32] These authors thus refer to these constructions as *pseudo-sluicing*, and propose that the *wh*-elements in (54) is not the remnant of TP ellipsis, but a base generated clause containing a predicate with a null subject pro, schematically illustrated in (55).

(55) 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 (that involve ellipsis). This is because TP ellipsis is unavailable in these languages.[33]

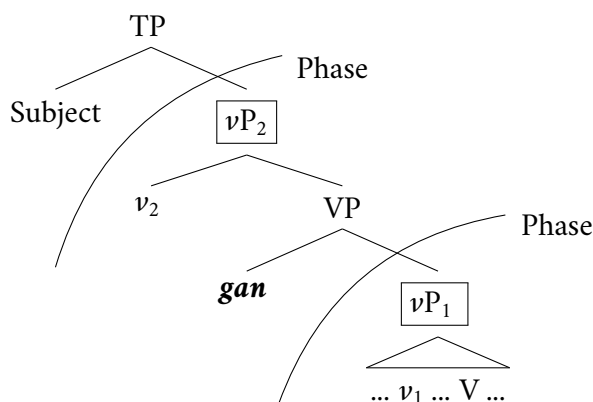### 4.3.3 Against an alternative, anti-locality approach

To provide an additional arguement for the proposed account, we discuss a potential alternative approach to derive the licensing conditions of VP movement and ellipsis that resorts to the Anti-Locality

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32. Space reasons prevent us from performing a comprensihve review on arguments against a movement plus ellipsis approach. For a recent overview, see Li and Wei (2023).
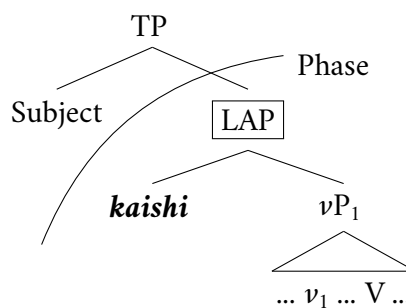
33. We acknowledge that this is not the only explanation to the lack of sluicing. See Li and Wei (2017) for another explanation that attributes the lack of sluicing to the lack of focus movement that fronts the *wh*-expressions to the initial position, i.e., initial positions host topics, instead of focused elements.

Condition (Abels 2003). Recall the structural difference between sentences with a modal verb and an aspectual verb discussed in §3.3.1, repeated below in (56) and (57).

(56) $v\text{P}_1$ and $v\text{P}_2$ are phases in (33a)

TP
Subject
Phase
$v\text{P}_2$
v_2
VP
gan
Phase
$v\text{P}_1$
... v_1 ... V ...

(57) LAP is a phase in (33b)

TP
Subject
Phase
LAP
kaishi
$v\text{P}_1$
... v_1 ... V ...

In order to account for the (un)movability of $v\text{P}_1$ 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 $v\text{P}_1$ in (56) could exit the higher phase ($v\text{P}_2$) by moving into Spec $v\text{P}_2$, the $v\text{P}_1$ in (57), however, could not exit the phase (LAP) by moving into Spec LAP, because it is too "local" (i.e., $v\text{P}_1$ 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 two Type B aspectual elements in a sentence, resulting in multiple LAPs.

(58) A sentence with multiple LAPs

Go-ngaan dang [_LAP **hoici** [_LAP **hai-dou** [_vP sim-haa   sim-haa]]].   [C]

that-CL   light   begin   PROG   flicker-DEL flicker-DEL

'That light begins flicking.'

In such case, the higher LAP (boxed) headed by *hoici* constitutes a phase, but not the lower LAP headed by *hai-dou*. Crucially, the phases-are-privileged account predicts that movement of vP is still impossible, because it is not a phase. On the contrary, the anti-locality account predicts the opposite:

since the vP is no longer the complement of a phase head, it may move into the Spec LAP headed by *hoici* without violating anti-locality. The example in (59) shows that the prediction made by the former is borne out: the vP cannot be fronted.

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

　　 *[$_{v\text{P}}$ sim-haa　　sim-haa],　go-ngaan dang [$_{\boxed{\text{LAP}}}$ **hoici** [$_{\text{LAP}}$ **hai-dou** $\triangle$]].　　　　[C]
　　　　flicker-HAA flicker-HAA that-CL　light　　begin　　PROG
　　　　Int.: 'That light begins flicking.'

As such, we maintain that the proposed phases-are-privileged account is superior to the anti-locality account.

5   Residue issues and implications

5.1   The epistemic modals

In this subsection, we pick up two issues related to epistemic modals. Recall the sentences with the epistemic modals *keneng/honang* 'be.possible/possibly' in (12), repeated below as (60). Neither of them license VP movement or ellipsis.

(60)   *Keneng/honang* do not license VP movement or ellipsis　　　　　　　　= (12)

　　 a. *[Hui qu xianchang] Akiu **keneng** $\triangle$.
　　　　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**　　$\triangle$.
　　　　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.'

If we assume with Y.-H. A. Li (1990), Lin and Tang (1995), T.-C. Tang (2000), Huang, Li, and Li (2009), T.-H. J. Lin (2011), and C.-T. J. Huang (2022) that they are (lexical) heads, they challenge the head

licensing generalization in (11), on which our proposal is built. 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, which are predicted to be movable and elidible, given our discussions in §4.3.

It should be remarked that the inability to license VP movement and ellipsis appears to be a general property of epistemic modals in Chinese. Consider the modal expression *jinggoi* 'should' in Cantonese, which is ambiguous between a deontic reading and an epistemic reading. In (61a), 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 (61b) conveys a deontic reading, and VP ellipsis is allowed.

(61)   The contrast between epistemic *jinggoi* annd deontic *jinggoi*   =(13)

   a.   Ni-po   faa   **jinggoi** [hoi-zo],   *go-po faa   dou **jinggoi** △.   [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],   ^OK go-po faa   dou **jinggoi** △.   [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), it is not immediately clear why ellipsis is impossible in these cases. As observed in the VP domain, head licensing is only a necessary condition on movement and ellipsis. We suggest that a similar reasoning applies to CP domain, and that CP ellipsis and movement is additionally constrained by independent considerations. Here, we adopt the suggestion in Y.-H. A. Li (2005, 2007, 2014) and suggest that failures of CP ellipsis/movement in (60) and (61) are indeed due to Case reasons. Li has argued that the possibility of CP ellipsis, or null CP objects, is correlated with the subcategorization property of the predicates. She arrives at the generalization in (62).

(62)   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.

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 (52), 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.

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

    a. Wo **faxian**-le yi-jian shi. [M]   b. Ngo **soengseon** keoi. [C]

       I discover-PERF one-CL thing   I believe s/he

       'I discovered one thing.'   'I believe him/her.'

However, none of them, namely, *keneng*, *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.[34]

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

    a. ***Keneng** zhe-jian shi. [M]

       be.possible this-CL thing

       Int.: 'This thing is possible.'

    b. *Aaming **jinggoi**/ **honang** ni-gin si. [C]

       Aaming should be.possible this-CL thing

       Int.: 'Aaming should/may (be/do) this thing.'

As such, the inability of epistemic modals to license CP movement and ellipsis does not challenge our proposal. What is special about CP ellipsis/movement appear to be that they 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.

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34. See Y.-H. A. Li (2014) for an explanation of the generalization in (62).

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 (65), where the VP can be separated from Type B aspectual elements, such as the progressive marker *hai-dou* and the aspectual verb *hoici* 'begin'.

(65) a. Progressive marker

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

flicker-DEL 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 (65), which he dubbed as *Dislocation Focus Construction*, involve focus movement to the front of the sentence-final particles. Schematically, the sentences in (65) is derived by fronting the (focused) *v*P, stranding both the subject and the aspectual elements. This appears to constitute a case of VP movement of non-phases.

(66) The derivation of (65) under the proposal in Cheung (2009)

*v*P SFP Subject [$_{LAP}$ ***hai-dou/hoici*** [$_{vP}$ ...]]

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.

(67) 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 vP/CP 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 (65) and (67) is not a vP, but a matrix CP (not embedded 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 independently to the left periphery below the sentence-final particles.[35] 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.

(68)   The derivation of (65) under the proposal in Lee (2017)

CP   SFP   Subject$_i$ ***hai-dou/hoici***$_j$ [$_{CP}$ t$_i$ t$_j$ ...]   ]

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).

(69)   [po faa   maanmaan bin   wong] laa3 **hoici**

       CL flower slowly   change yellow SFP begin

       'The flower begins to turn yellow slowly.'

(70)   The derivation of (69) under the proposal in Lee (2017)

CP   SFP   ***hoici***$_i$ [$_{CP}$ Subject t$_i$ ...]

If this reasoning is on the right track, then the sentences in (65) need not be a challenge to our proposal.

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35. Verbs/Heads are argued to be able to under movement on their own in right dislocation; see Lee (2017, 2024).

Furthermore, we obtained 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.

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 (Lobeck 1995; Merchant 2001; Johnson 2001; Tsai 2015; Law and Ndayiragije 2017; S.-W. Tang 2022a), we further suggested that head licensing is only a necessary, but not 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 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 Mandarin and Cantonese. Crucially, we revealed that the privileged status of phases are further reflected in phenomena beyond VP movement and ellipsis in these languages, 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 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, an idea supported by independent works on locality (den Dikken 2006; Gallego and Uriagereka 2006; Gallego 2010; Stepanov 2012; Bošković 2014; Pesetsky 2021; Lee and Yip 2024). 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 to small to exclude projections involving imperfectivity/unboundedness.

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