

Again, finiteness and split aspect in Chinese languages^{*}

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Abstract

This paper argues for a size-based approach to finiteness in Chinese languages, using the exceptional scopal behavior of ‘again’-type elements as a case study. Drawing novel data from Mandarin and Cantonese, we identify two key empirical patterns: (a) Mandarin preverbal *you* ‘again’ and Cantonese postverbal *-faan* ‘again’ exhibit exceptional scopal behavior, which is not found with other ‘again’-type elements that are lower than outer aspect; (b) this exceptional scopal behavior is possible only under nonfinite clauses with a small-than-TP size, namely vP, resembling restructuring crosslinguistically. Adopting the split aspect approach and a hierarchy of complement clause sizes, we propose that *you* and *-faan* move to and agree with an outer aspect phrase (AspP) above vP, respectively. This association by movement or agreement may cross vP-sized nonfinite clause boundaries, while in TP-sized nonfinite clauses, it is blocked by an intervening embedded outer AspP. Such restructuring-like patterns are only found with elements licensed by outer AspP (above vP) but not by inner AspP (below vP) due to the minimal size of nonfinite clauses being vP. Our findings uncover a fine-grained cartography of ‘again’-type elements and aspectual elements in Chinese languages on the one hand and support a gradient distinction in finiteness marked by complement size over a simple [\pm finite] or [\pm tense] dichotomy on the other.

Keywords: *again*, exceptional scopal behavior, finiteness, restructuring, split aspect approach, Mandarin Chinese, Cantonese

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1 Introduction

Various predicates take clausal complements, yet not all clausal complements have equal status. Since the early discussions of restructuring, pioneered by Rizzi (1976, 1978, 1993), Rouveret and Vergnaud (1980), Burzio (1981), and much other work, it has been observed that some clauses exhibit reduced clausehood and thus a higher level of syntactic transparency. This reduced clausehood has been correlated with a wide range of syntactic phenomena, including clitic climbing, long-distance agreement, Case assignment, scrambling, and so on (Wurmbrand 1998, 2001; Cinque 2004, 2006, a.o.). Despite the variety in syntactic phenomena, the underlying intuition remains clear: certain clausal complements are structurally less independent, allowing them to behave more like extensions of their matrix clauses than as standalone ones.

This paper takes this foundational observation as its point of departure. In languages where these phenomena are well-documented, such as Germanic and Romance languages, restructuring has been closely tied to nonfiniteness, often characterized by the absence of tense marking and correlated with binding and raising (Chomsky 1973, 1981 et seq.). While efforts have been made to account for this *finiteness distinction* by positing a dedicated feature like $[\pm\text{finite}]$ or $[\pm\text{tense}]$, (e.g., Chomsky 1981; Baker 2003), a *reduced clause size* approach (e.g., Stowell 1992; Cinque 2004) crystallized as a key theoretical insight over the past few decades. This approach proposes that nonfinite clauses lack certain functional projections such as CP and/or even TP, and thus, are smaller in size, deriving their reduced clausehood and consequent syntactic transparency.

Existing accounts for finiteness raise an intriguing question for Chinese languages like Mandarin and Cantonese, which appear to lack overt markers for almost all of the aforementioned morphosyntactic features: Is there evidence for a finiteness distinction (or its analog) in Chinese languages? This paper aligns with the position advocated by C.-T. J. Huang (1982, 1989, 1998, 2022), Y.-H. A. Li (1985, 1990), Sybesma (2007), T.-H. J. Lin (2011, 2015), N. Huang (2018, 2024), Zhang (2019), He (2020, 2024), and D. Li (2024), which argues that a syntactic finiteness distinction exists in Chinese languages (contra Y. Huang 1994; Hu, Pan, and Xu 2001; L. Xu 2003, etc.). As for its exact manifestation, we follow Grano (2014), N. Huang (2018), and C.-T. J. Huang (2022) in proposing that this distinction need not rely on a dedicated finiteness feature (unlike what T.-H. J. Lin (2011) and Zhang (2019) propose, for example). We argue that this finiteness distinction can be reduced to differences in clause size, constituting a byproduct of the capability of predicates to take clausal complements of varying sizes in (1). Furthermore, we identify the lower bound of nonfinite clauses as vP, usually regarded as a restructuring size (Wurmbrand 2001; Cinque 2006), which contains a low aspectual projection $\text{AspP}_{\text{inner}}$ (e.g., MacDonald 2008; Tsai 2008; Travis 2010).

(1) *Verb complement clause sizes in Chinese languages*

- | | | |
|----|--|---------------------------------|
| a. | $V [_{\text{CP}} \dots [_{\text{TP}} \dots [_{\text{AspP}_{\text{outer}}} \dots [_{\text{vP}} \dots [_{\text{AspP}_{\text{inner}}} \dots [_{\text{VP}} \dots]]]]]]]]$ | <i>type I (finite)</i> |
| b. | $V [_{\text{TP}} \dots [_{\text{AspP}_{\text{outer}}} \dots [_{\text{vP}} \dots [_{\text{AspP}_{\text{inner}}} \dots [_{\text{VP}} \dots]]]]]]$ | <i>type II (nonfinite)</i> |
| c. | $V [_{\text{vP}} \dots [_{\text{AspP}_{\text{inner}}} \dots [_{\text{VP}} \dots]]]]$ | <i>type III (restructuring)</i> |

As demonstrated by N. Huang (2018) and C.-T. J. Huang (2022), the three types exhibit distinct locality profiles in Chinese. While certain dependencies can apply across nonfinite TPs and vPs but not finite CPs, like passivization and internal topicalization, there is another type of dependency that can apply across restructuring vPs but not nonfinite TPs and finite CPs, which will be the focus of this paper.

This gradient structural view is consistent with the *implicational complementation hierarchy (ICH)*

proposed by Wurmbrand and Lohninger (2023) (inspired by Givón 1980), who suggest that clause types form a continuum and their associated properties follow a unidirectional progression as in (2). Our proposal ultimately supports the claim by C.-T. J. Huang (2022) and He (2024) that the ICH is systematically manifested in Mandarin.

(2) *Implicational complementation hierarchy*

MOST INDEPENDENT	I	II		III	LEAST INDEPENDENT
LEAST TRANSPARENT		proposition >		situation >	MOST TRANSPARENT
LEAST INTEGRATED				event	MOST INTEGRATED

(Wurmbrand and Lohninger 2023:188)

Our argument relies on the exceptional scopal behavior of ‘again’-type elements, found in Mandarin with preverbal *you* ‘again’ (first reported in Liu 2021, 2024; C.-T. J. Huang 2022; cf. T. Xu 2012, 2016) and in Cantonese with postverbal *-faan* ‘again’. The Mandarin possibility is shown by the naturally occurring example in (3).¹ Here, *you* is positioned before the matrix predicate and separated from the embedded clause, but based on the provided context, it appears that *you* is modifying the embedded predicate rather than the matrix one.

(3) *Mandarin preverbal ‘again’ skipping*

(*Tongxue*: *Tamen rang wo you xiangxin aiqing*. [...] *Xinan Daxue dikeyuan daxuesheng Wang Jingkai, kandao liuchuan zai Renren Wang shang de hunli zhaopian hou, zhuanmen liuyan zhufu zhe dui xinren changchangjiujiu*: “Yinwei tamen, ...

[Student: They let me again believe in love. [...] Wang Jingkai, a student at the School of Earth Sciences of Southwest University, left a message wishing the couple a long and happy life after seeing the wedding photos circulating on *Renren.com*: “Because of them, ...])

“**You** rang wo [xiangxin aiqing] le!”

again let 1SG believe love PRF

“‘[They] let me again believe in love!’”

Not: “‘[They] again let me believe in love!’”

(https://fashion.ifeng.com/news/detail_2012_05/18/14627928_0.shtml)

To felicitously utter the sentence presented in (3), it is not necessary for there to have been a prior entity or event that caused the speaker to believe in love: simply the fact that the speaker believed in love before would be enough.² In other words, the repeated event is the act of believing rather than the act of being made to believe, even though on the surface, *you* does not occupy a position in which it could modify ‘believe’.

Similar exceptional scopal behavior is observed with postverbal *-faan* ‘again’ in Cantonese, but in the opposite direction, where embedded ‘again’ can take exceptional scope over the matrix predicate. As shown in the naturally-occurring example (4), although the verbal suffix *-faan* is attached to ‘apply’ embedded under ‘want’, it expresses the reading that ‘I again want to apply for Extended Math’. Since

1. Mandarin examples are transcribed using *pinyin*, and Cantonese examples are transcribed using *Jyutping* (the Linguistic Society of Hong Kong Cantonese Romanization Scheme, 1993). Tones are represented only when necessary. Glossing abbreviations not included in *The Leipzig Glossing Rules*: CONT = continuative, EXP = experiential, PC = phase complement, SFP = sentence-final particle.

2. It is important to note that the paraphrase of this presupposition is explicitly and literally stated in the context, as in *tamen rang wo you xiangxin aiqing* ‘they let me again believe in love’. We hence believe it is more appropriate to interpret (3) as indicating repeated belief rather than repeated causation. Our Mandarin consultants also confirmed this judgment.

the preceding context makes it clear that the speaker did not apply for Extended Math before, it is a case where *-faan* takes wide scope over the matrix ‘want’ instead of the embedded ‘apply’.

(4) *Cantonese postverbal ‘again’ lowering*

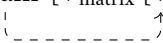
(Soeng jap zingfu manzik, daan mou bou jinsansou,) jigaa zauhai
 want enter government civilian.post but not.PFV apply Extended.Math now then
 soeng [bou-**faan**].
 want apply-again

‘([I] wanted to be a government civilian staff, but [I] didn’t apply for Extended Math;) [I] again want to apply now.’

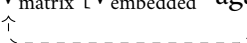
(<https://www.discuss.com.hk/viewthread.php?tid=31649799>)

We call the Cantonese case ‘again’ lowering and the Mandarin case ‘again’ skipping, as schematized in (5a–5b) below.

(5) a. *Mandarin preverbal ‘again’ skipping*

HIGH PRONUNCIATION ...[‘again’ [V_{matrix} [V_{embedded} ...] ...] LOW INTERPRETATION


b. *Cantonese postverbal ‘again’ lowering*

HIGH INTERPRETATION ...[V_{matrix} [V_{embedded}-‘again’ ...] ...] LOW PRONUNCIATION


These patterns we generalize are not a Chinese-specific phenomenon. As reported by Cardinaletti (2003) and Liu (2023), Italian *ri-* ‘again’ has a similar scopal “skipping” behavior like Mandarin *you*, as illustrated by the narrow scope reading in (6). Crucially, this behavior is observed only with restructuring verbs (which allow clitic climbing, etc.) (Liu 2023).

(6) *Italian ri-separation*

Gianni **ri**-vorrà [chiudere la porta].

Gianni again-want.FUT.3SG close.INF the door

Wide scope: ‘Gianni will again want to close the door.’

Narrow scope: ‘Gianni will want to again close the door.’

(Liu 2023:2)

The empirical focus of this paper is on Mandarin and Cantonese, where restructuring has received less attention. Based on naturalistic examples on the internet, data reported in the literature, as well as those we systematically collected from 9 other native speakers of (Mainland) Mandarin (some core data confirmed by 4 more) and 9 others of (Hong Kong) Cantonese, we discover that this exceptional scopal behavior is sensitive to two syntactic factors: (a) it is allowed with certain ‘again’-type elements, namely, Mandarin *you* and Cantonese *-faan*, but not with Mandarin *zai* and Cantonese *-gwo*, where the latter two we argue to be structurally lower; (b) it is allowed with nonfinite clause-taking predicates but not with finite clause-taking ones, as summarized in Table 1. As we will demonstrate, not every nonfinite clause is transparent for this behavior. Only nonfinite clauses that are vP-sized (i.e., restructuring clauses) allow for the exceptional scopal behavior, whereas TP-sized nonfinite clauses systematically block it.

To account for the dual asymmetries, we follow the split aspect approach (e.g., MacDonald 2008; Tsai 2008; Travis 2010; Lu, Lipták, and Sybesma 2019; Yip 2020, 2024; S.-W. Tang 2022) and assume that there are two positions associated with Mandarin and Cantonese ‘again’-type elements —

	Nonfinite clause (vP)	Nonfinite clause (TP)	Finite clause (CP)
Mandarin <i>you</i>	✓	✗	✗
Cantonese <i>-faan</i>	✓	✗	✗
Mandarin <i>zai</i>	✗	✗	✗
Cantonese <i>-gwo</i>	✗	✗	✗

Table 1: Exceptional scopal behavior of ‘again’-type elements across different clause boundaries in Chinese languages

namely, an outer AspP ($\text{AspP}_{\text{outer}}$) above vP and an inner AspP ($\text{AspP}_{\text{inner}}$) below vP, as schematized in (7). Both preverbal *you* and postverbal *-faan* associate syntactically with $\text{AspP}_{\text{outer}}$, via movement for *you* and via agreement for *-faan*. *Zai* and *-gwo*, in contrast, do not have an association with $\text{AspP}_{\text{outer}}$ but only with $\text{AspP}_{\text{inner}}$.

- (7) a. *Association with $\text{AspP}_{\text{outer}}$ by movement*

$$[\text{AspP}_{\text{outer}} \textit{you} \text{AspP}_{\text{outer}} [\text{vP} \dots [\text{AspP}_{\text{inner}} \dots [\text{VP} \textit{t} \text{V} \dots]]]]$$
- b. *Association with $\text{AspP}_{\text{outer}}$ by agreement*

$$[\text{AspP}_{\text{outer}} \text{AspP}_{\text{outer}} [\text{vP} \dots [\text{AspP}_{\text{inner}} \dots [\text{VP} \text{V-faan} \dots]]]]$$

We propose that it is this very association with $\text{AspP}_{\text{outer}}$ that derives the exceptional scopal behavior. In vP-sized restructuring clauses which lack $\text{AspP}_{\text{outer}}$, *you* and *-faan* must be licensed by the matrix $\text{AspP}_{\text{outer}}$. In the case of *you*, it overtly moves to $\text{AspP}_{\text{outer}}$ but is interpreted in its original base position at LF, whereas embedded *-faan* agrees with the matrix $\text{AspP}_{\text{outer}}$ to obtain wide scope.

- (8) a. *Exceptional narrow scope of you by reconstruction*
(reconstruction site indicated by a framebox)

$$[\text{AspP}_{\text{outer}} \textit{you} \text{AspP}_{\text{outer}} \dots [\text{vP}_{\text{matrix}} \dots [\text{VP}_{\text{matrix}} \dots [\text{vP}_{\text{embedded}} \textit{t} \text{V} \dots]]]]$$
- b. *Exceptional wide scope of -faan by agreement*

$$[\text{AspP}_{\text{outer}} \text{AspP}_{\text{outer}} \dots [\text{vP}_{\text{matrix}} \dots [\text{VP}_{\text{matrix}} \dots [\text{vP}_{\text{embedded}} \text{V-faan} \dots]]]]$$

In the case of TP-sized nonfinite clauses, embedded $\text{AspP}_{\text{outer}}$ serves as a (defective) intervener (in the sense of Chomsky 2000) that blocks the association with matrix $\text{AspP}_{\text{outer}}$.

- (9) a. *Intervention to movement to matrix $\text{AspP}_{\text{outer}}$*
(interveners indicated by shades)

$$*[\text{AspP}_{\text{outer}} \textit{you} \text{AspP}_{\text{outer}} \dots [\text{vP}_{\text{matrix}} \dots [\text{VP}_{\text{matrix}} \dots [\text{TP}_{\text{embedded}} \dots [\text{AspP}_{\text{outer}} \text{AspP}_{\text{outer}}] [\text{vP}_{\text{embedded}} \textit{t} \text{V} \dots]]]]]]$$
- b. *Intervention to agreement with matrix $\text{AspP}_{\text{outer}}$*

$$*[\text{AspP}_{\text{outer}} \text{AspP}_{\text{outer}} \dots [\text{vP}_{\text{matrix}} \dots [\text{VP}_{\text{matrix}} \dots [\text{TP}_{\text{embedded}} \dots [\text{AspP}_{\text{outer}} \text{AspP}_{\text{outer}}] [\text{vP}_{\text{embedded}} \text{V-faan} \dots]]]]]]$$

We also argue that the above analysis readily extends to a scopal mismatch phenomenon of as-

pectual suffixes, the so-called *aspect lowering* (or *experiential lowering*), which has been analyzed by Grano (2014), N. Huang (2018), and C.-T. J. Huang (2022) as evidence for restructuring in Chinese. Moreover, we suggest that the *absence* of the lowering phenomenon of certain postverbal aspectual elements, as well as the *lack* of exceptional scopal behavior of other ‘again’-type elements like *zai* and *-gwo*, follow from (a) their association with a lower position, $\text{AspP}_{\text{inner}}$ (within vP), and (b) the minimal size of nonfinite clauses being vP. As later fleshed out in details, intervention by embedded $\text{AspP}_{\text{inner}}$ is always active even for vP-sized nonfinite clauses, deriving the systematic absence of exceptional scopal behavior of these elements.

Not only does the proposed view on finiteness and split aspect capture a number of intricate restructuring patterns concerning ‘again’-type and aspectual elements in two Chinese languages, but it also offers crucial support for a gradient size-based approach to finiteness of complement clauses: ranging from vP to CP, with TP marking the boundary between finite and nonfinite clauses (as in (1)).

The rest of this paper is structured as follows. Section 2 presents the Mandarin pattern regarding adverbs *you* and *zai* and their scopal behavior in nonfinite and finite clauses. Section 3 analyzes the Mandarin pattern, resorting to variable nonfinite clause sizes and licensing by aspect projections in connection to aspect lowering. Section 4 presents the Cantonese pattern, where parallel examples to the Mandarin ones are found with verbal suffixes *-faan* and *-gwo*. Section 5 analyzes the Cantonese pattern, adding the split aspect approach into the general picture. Section 6 discusses our take on the minimal size of nonfinite clauses being vP and shows how this consequence can be naturally derived from our proposal. Section 7 concludes.

2 Preverbal ‘again’ skipping in Mandarin

Mandarin has two preverbal adverbs that convey the meaning of ‘again’: *you* and *zai* (a.o.: Lü 1980; T.-C. Tang 1989). Like English *again*, both *you* and *zai* have repetitive and restitutive readings (T. Xu 2012, 2016):

(10) You ‘again’

a. *Repetitive*

Zhe ge ren zuotian lai-guo, jintian **you** lai-le.
 this CLF person yesterday come-EXP today again come-PFV
 ‘This person came yesterday and came again today.’
 (Lü 1980, 490)

b. *Restitutive*

(Lisa had a bunch of red shells. Unfortunately after a while they all got very dusty and the redness faded. In need of two red shells to decorate her Christmas tree, ...)

Ta **you** tu-hong-le qizhong liang ge beike.
 3SG again paint-red-PFV among two CLF shell.
 ‘She painted two of the shells red again.’
 (T. Xu 2012, 475)

(11) *Zai* ‘again’

a. *Repetitive*

Qu-guo-le hai keyi **zai** qu.
go-EXP-PFV still be.permitted again go
‘[Even if you] have been there, [you] can still go again.’
(Lü 1980, 499)

b. *Restitutive*

(The door was open before (not opened by John). Then it got closed. John wants to open the door but he was too tired, so ...)

Ta mei **zai** ba men dakai.
3SG not.PFV again BA door open
‘He did not open the door again.’
(T. Xu 2012, 478)

This paper only concerns the repetitive reading, but see T. Xu 2012, 2016; Liu 2021, 2024 for extensive discussion on the restitutive reading.

In what follows, we show that *you* exhibits a type of exceptional scopal behavior, which *zai* does not exhibit. We correlate their allowance/disallowance of the scope skipping effect with their embeddability/unembeddability under nonfinite clause-taking predicates.

2.1 Scopal behavior of *you* and *zai*

Liu (2021, 2024) and C.-T. J. Huang (2022) report that when Mandarin preverbal *you* ‘again’ appears in the matrix clause, it can take narrow scope and directly apply to the embedded predicate. Example (12) includes a context where there is an antecedent event of Xiaoming going to Hong Kong but no antecedent event of Xiangming wanting to do so. In (12a), although *you* comes before the matrix verb ‘want’, it is understood as if it is attached to the embedded predicate ‘go to Hong Kong’, resulting in a felicitous utterance in the given context — metaphorically, *you* “skips” the main clause predicate and takes the embedded predicate directly as its scope, just like back in (3). While previous studies have not examined other Mandarin ‘again’-type elements in relation to this skipping effect, here, we make a novel observation that *zai* does not allow the same scope skipping effect: when occurring before the matrix verb, it can only attach to the matrix verb, making (12b) infelicitous in the given context.³

(12) *Narrow scope context: ‘Want’ > ‘again’ > ‘go’*

Yesterday, Xiaoming took a business trip to Hong Kong for work, despite not wanting to travel,

3. In order to retrieve the desired reading in (12a), some but not all speakers prefer adding *yi ci* ‘once’ or sentence-final perfect marker *le*. Also, (12b) contains an additional future modal *hui* ‘will’ absent in (12a). This is because *zai*, for reasons unknown to us, is better suited with such elements. Yet, its incompatibility with ‘again’ skipping is independent of the presence of *hui*, as demonstrated in (i), where *zai* still only has the matrix scope reading in the absence of *hui*. Note also that *you* cannot be embedded under *hui* due to an aspectual constraint, to be discussed in Section 2.2.

(i) Dang women **zai** xiang [qu baoming] shi, xuexiao que shuo women cuoguo-le baoming shijian.
when 1PL again want go register time school however say 1PL miss-PFV registration period
‘When we again wanted to register, however, the school said we had missed the registration period.’
(Online news, undated, accessed on 2025-2-26)

as he was compelled by his boss. Unfortunately, he did not complete the work before returning. Today, ...

a. *Matrix you: Scopally skipping 'want'*

(Worried about getting fired for not finishing the work, he wants to go back to Hong Kong again to finish it.)

Xiaoming **you** xiang [qu (yi ci) Xianggang] (le).

Xiaoming again want go one time Hong.Kong PRF

Narrow scope: 'Xiaoming wants to again go to Hong Kong (once).'

#Wide scope: 'Xiaoming again wants to go to Hong Kong (once).'

b. *Matrix zai: Not scopally skipping 'want'*

(It is thought that he will want to go back to Hong Kong again to finish it.)

#Xiaoming hui **zai** xiang [qu (yi ci) Xianggang].

Xiaoming will again want go one time Hong.Kong

*Narrow scope: 'Xiaoming will want to again go to Hong Kong (once).'

#Wide scope: 'Xiaoming will again want to go to Hong Kong (once).'

We use asterisks (*) and pound signs (#) before free translations to denote varying senses of unacceptability for the corresponding readings. An asterisk indicates that the reading is impossible for the given utterance, while a pound sign indicates that the reading is possible but infelicitous under the given context. For example, although the pound signs preceding the wide scope readings of (12a–12b) indicate their infelicity in the given context, these readings are still possible interpretations of the corresponding utterances. They can become felicitous if the context is adjusted, such as in (13).

(13) *Wide scope context: 'Again' > 'want' > 'go'*

Xiaoming loves traveling and is a big fan of Hong Kong. Last year, Xiaoming wanted to go to Hong Kong.

a. *Context for you*

This year, Xiaoming again wanted to go to Hong Kong.

b. *Context for zai*

This year, it is believed that Xiaoming will again want to go to Hong Kong.

Some other predicates like *dasuan* 'intend' also allow the scope skipping of *you*. In (14), which is minimally different from (12a) in that the matrix verb is replaced by 'intend', we again observe that *you* exhibits the scope skipping effect, whereas *zai* does not.

(14) a. *Matrix you: Scopally skipping 'intend'*

(Worried about getting fired for not finishing the work, he intends to go back to Hong Kong again to finish it.)

Xiaoming **you** dasuan [qu (yi ci) Xianggang] (le).

Xiaoming again intend go one time Hong.Kong PRF

Narrow scope: 'Xiaoming intends to again go to Hong Kong (once).'

#Wide scope: 'Xiaoming again intends to go to Hong Kong (once).'

b. *Matrix zai: Not scopally skipping 'intend'*

(It is thought that he will intend to go back to Hong Kong again to finish it.)

#Xiaoming hui **zai** dasuan [qu (yi ci) Xianggang].

Xiaoming will again intend go one time Hong.Kong

*Narrow scope: ‘Xiaoming will intend to again go to Hong Kong (once).’

#Wide scope: ‘Xiaoming will again intend to go to Hong Kong (once).’

The agent of the embedded event over which ‘again’ takes scope does not need to be the subject of the matrix predicate. Along with the internet example in (3) in Section 1, we include (15) below, where the matrix verb is an object control verb *quan* ‘urge’.⁴

(15) *Matrix you: Scopally skipping ‘urge’*

(Wo zhiqian mai-guo baojianpin le.) Ni bu yao **you** quan wo mai!

1SG before buy-EXP health.product PRF 2SG not IMP again urge 1SG buy

‘(I have bought health products before.) Don’t urge me to buy again!’

This utterance remains perfectly felicitous even if the addressee has never urged the speaker to buy health products. Putting everything together, (12–15) lead us to the generalization in (16).

(16) *Generalization I*

The exceptional scopal behavior of Mandarin ‘again’ is found with **you** but not with **zai**.

This scope skipping effect observed with *you* depends on the choice of matrix verbs: only nonfinite clause-taking predicates allow for *you* to “skip” scope. In (17), we have a context that does not convey an antecedent event of believing but does convey an antecedent event of appearing. This context is compatible with a target sentence where the matrix verb is ‘believe’ and scopes over *you*. In this context, *you* preceding matrix ‘believe’ is infelicitous in (17a), indicating that *you* cannot “skip” ‘believe’, in contrast to (17b), where *you* surfacing in the embedded clause can produce the intended interpretation.

(17) *Narrow scope context: ‘Believe’ > ‘again’ > ‘appear’*

Initially, during the 2003 SARS outbreak, Xiaoming did not believe in the existence of coronavirus, thinking that it was just a flu. After the outbreak, there were no reported cases of coronavirus until the COVID-19 outbreak in 2019. Miraculously, by that time, Xiaoming had become an epidemiologist and collected a sample containing the COVID-19 virus, which led him to come to believe that coronavirus had appeared before, and it had appeared again.

(Notationally: Xiaoming’s belief state in 2003 = {✗coronavirus in 2003};

Xiaoming’s belief state in 2019 = {✓coronavirus in 2003 and in 2019}.)

a. *Matrix you: #*

#Xiaoming **you** xiangxin [chuxian-le guanzhuangbingdu].

Xiaoming again believe appear-PFV coronavirus

*Narrow scope: ‘Xiaoming believes that coronavirus again appeared.’

#Wide scope: ‘Xiaoming again believes that coronavirus appeared.’

b. *Embedded you: OK*

Xiaoming xiangxin [**you** chuxian-le guanzhuangbingdu].

Xiaoming believe again appear-PFV coronavirus

Narrow scope: ‘Xiaoming believes that coronavirus again appeared.’

4. We thank [anonymized native Mandarin speaker] for providing us with this example.

In Mandarin, ‘believe’ takes finite clause complements, which are standardly assumed to be CPs (C.-T.J. Huang 2022), while ‘want’ takes nonfinite clause complements (e.g., TPs or vPs). An extensive examination by Liu (2024) shows that the narrow scope interpretation of *you* is allowed only with the nonfinite clause-taking predicates listed in (18) but not with the finite clause-taking predicates listed in (19). This observation suggests that *you* cannot “skip” across a finite clause boundary.

(18) *Nonfinite clause-taking predicates: ✓ You skipping*
bi(po) ‘force’, *changshi* ‘try’, *dasuan* ‘intend’, *jihua* ‘plan’, *jueding* ‘decide’, *mingling* ‘order’, *quan(shuo)* ‘urge’, *rang* ‘let’, *shefa* ‘try’, *tingzhi* ‘stop’, *tiyi* ‘propose’, *tuijian* ‘recommend’, *weixie* ‘threat’, *xiang(yao)* ‘want’, *xuanze* ‘choose’, *zhunbei* ‘prepare’, etc.
 (Liu 2024:215, adapted)

(19) *Finite clause-taking predicates: ✗ You skipping*
faxian ‘discover’, *fouren* ‘deny’, *gaosu* ‘tell’, *huaiyi* ‘suspect’, *queren* ‘confirm’, *renwei* ‘think’, *shengming* ‘declare’, *shuo* ‘say’, *xiangxin* ‘believe’, *zhidao* ‘know’, etc.
 (Liu 2024:215)

Hence, we can generalize that the scope skipping of *you* is limited to nonfinite clause-taking predicates in (20).

(20) *Generalization II*

The exceptional scopal behavior of ‘again’ can cross **nonfinite** but not **finite** clause boundaries.

We wrap up this subsection by showing an example with multiple nonfinite clause boundaries “skipped” across. In (21), the matrix *you* skips over the matrix *shefa* ‘try’ and middle *rang* ‘let’, and is interpreted as modifying the innermost embedded predicate *xiangxin* ‘believe’, as in (21).⁵

(21) (Xiaoming is a good friend of mine. He knows that I had been a true believer of love, until I recently broke up with my partner. Trying to cheer me up, he recommended a famous romance TV series to me, hoping that it will make me believe in love again. He has never done anything like this before.)

Xiaoming **you** shefa [rang wo [xiangxin aiqing]] (le).

Xiaoming again try let 1SG believe love PRF

Narrow scope: ‘Xiaoming tried to let me again believe in love.’

Intermediate scope: ‘Xiaoming tried to again let me believe in love.’

Wide scope: ‘Xiaoming again tried to let me believe in love.’

5. Again, the infelicity of the intermediate and wide scope readings does not disqualify them as possible interpretations. Contexts where they become felicitous are provided in (1).

(i) a. *Intermediate scope context: ‘Try’ > ‘again’ > ‘let’ > ‘believe’*

Xiaoming is a good friend of mine. Before we met, he and his girlfriend were a legendary couple at our school, known for their touching love story. It was so moving that it made me believe in love. I haven’t been as lucky: I never found my true love and eventually lost faith in it. That changed when Xiaoming and I became friends. He shared more stories about his relationship, and through them, he’s been trying to restore my belief in love.

b. *Wide scope context: ‘Again’ > ‘try’ > ‘let’ > ‘believe’*

I despise love and find it impossible to believe in it, but my friend Xiaoming is determined to change my mind. He never stops trying!

2.2 Structural differences between *you* and *zai*

A contrast between *you* and *zai*, observed by Lin and Liu (2009), is their embeddability by certain nonfinite clause-taking predicates. While *you* cannot surface in a nonfinite clause headed by verbs like *keyi* ‘be permitted’ and *xiang* ‘want’, as in (22), *zai* can, as in (23).

- (22) a. *Xiaoming *keyi* [you lai] le.
 Xiaoming be.permitted again come PRF
 Intended: ‘Xiaoming has been permitted to again come.’ (Lin and Liu 2009:1186, adapted)
- b. *Xiaoming *xiang* [you qu Xianggang].
 Xiaoming want again go Hong.Kong
 Intended: ‘Xiaoming wants to again go to Hong Kong.’
- (23) a. Xiaoming *keyi* [zai qu Taipei].
 Xiaoming be.permitted again go Taipei
 ‘Xiaoming is permitted to again go to Taipei.’ (Lin and Liu 2009:1195)
- b. Xiaoming *xiang* [zai qu Xianggang].
 Xiaoming want again go Hong.Kong
 ‘Xiaoming wants to again go to Hong Kong.’

Lin and Liu (2009) accounts for this contrast using the *dynamic* ([+D]) and *static* ([−D]) aspectual features, originally proposed by Shen (2004) (see also T.-H. J. Lin 2011). A [+D] Asp⁰ requires that the predicate be an accomplishment, an achievement, or an activity under the Vendlerian classification (Vendler 1957). For example, the perfective suffix *-le* can only be combined with a dynamic predicate (Shen 2004:175n3). Lin and Liu (2009) propose that *you* must be licensed by the closest Asp⁰ head that carries [+D]. According to them, *keyi* ‘be permitted’ and *xiang* ‘want’ in (22) take a complement that is incompatible with a [+D] Asp⁰, necessitating a static meaning. This is evidenced by the failure to embed perfective *-le* in (24). Since [+D] is absent in these complement clauses, *you* embedding is not licensed.

- (24) *Xiaoming *keyi/xiang* [qu-le Xianggang].
 Xiaoming be.permitted/want go-PFV Hong.Kong
 Intended: ‘Xiaoming has been permitted/wants to go to Hong Kong.’

This is not the case for *rang* ‘let’, which also takes nonfinite clauses as complements but can project a [+D] Asp⁰ in its complement, as shown in (25) with *-le*.

- (25) Zhe bu ju rang wo [xiangxin-le aiqing].
 this CLF series let 1SG believe-PFV love
 ‘This series let me believe in love.’

As expected, *rang* can embed *you* as in (26). On the other hand, *zai* is not restricted to dynamic aspects and can be embedded by ‘be permitted’ or ‘want’ as in (23) above, and so can it be embedded under ‘let’ as in (27) below. Note that *rang* is compatible with [+D] but it does not require [+D] in its complement, as can be seen from the absence of *-le* in (21) above.

- (26) Zhe bu ju rang wo [you xiangxin-le aiqing].
 this CLF series let 1SG again believe-PFV love
 ‘This series let me again believe in love.’

Predicate	Dynamic aspect	Embedded <i>you</i>
<i>bi(po)</i> ‘force’	✓	✓
<i>changshi</i> ‘try’	✓	✓
<i>mingling</i> ‘order’	✓	✓
<i>quan(shuo)</i> ‘urge’	✓	✓
<i>rang</i> ‘let’	✓	✓
<i>shefa</i> ‘try’	✓	✓
<i>xuanze</i> ‘choose’	✓	✓
<i>dasuan</i> ‘intend’	✗	✗
<i>jihua</i> ‘plan’	✗	✗
<i>jueding</i> ‘decide’	✗	✗
<i>tingzhi</i> ‘stop’	✗	✗
<i>tiyi</i> ‘propose’	✗	✗
<i>tuijian</i> ‘recommend’	✗	✗
<i>weixie</i> ‘threat’	✗	✗
<i>xiang(yao)</i> ‘want’	✗	✗
<i>zhunbei</i> ‘prepare’	✗	✗

Table 2: Nonfinite clause-taking predicates and their compatibility with dynamic aspect and embedded *you*

- (27) Zhe bu ju rang wo [**zai** xiangxin-le aiqing].
 this CLF series let 1SG again believe-PFV love
 ‘This series will let me again believe in love.’

To complete the picture, (28) (reproduced from (17b)) and (29) show that both *you* and *zai* are embeddable by finite clause-taking predicates, such as *xiangxin* ‘believe’.

- (28) Xiaoming xiangxin [**you** chuxian-le guanzhuangbingdu].
 Xiaoming believe again appear-PFV coronavirus
 ‘Xiaoming believes that there again appeared coronavirus.’
- (29) Xiaoming xiangxin [hui **zai** chuxian guanzhuangbingdu].
 Xiaoming believe will again appear coronavirus
 ‘Xiaoming believes that there again appeared coronavirus.’

We have examined the nonfinite clause-taking predicates in (18) which resist a dynamic aspect independently, and they all resist embedding *you* as well. On the other hand, all the finite clause-taking predicates in (18) allow for a dynamic aspect and may embed *you*. The data are summarized in Table 2 and the compatibility with the scope skipping effect of ‘again’-type elements and their embeddability are correlated as in (30).

- (30) *Correlation I*

In Mandarin, an ‘again’-type element exhibits exceptional scopal behavior *iff* it cannot surface in an embedded nonfinite clause (without a dynamic aspect).

Another contrast between *you* and *zai* is whether they are structurally higher than aspectual el-

ements. Only *you*, but not *zai*, can be used with experiential aspect marked by the suffix *-guo*, as illustrated in (31).⁶

(31) *Structural height with the experiential suffix -guo*

- a. Wo jinnian **you** qu-guo (yi ci) Xianggang.
 1SG this.year again go-EXP one time Hong.Kong
 ‘I have gone to Hong Kong (once) again this year.’
- b. *Wo mingnian hui **zai** qu-guo (yi ci) Xianggang.
 1SG next.year will again go-EXP one time Hong.Kong
 Intended: ‘I will have gone to Hong Kong (once) again next year.’

Similar contrasts are found with the perfective adverb *-yijing* ‘already’ collocated with the perfective suffix *-le* (not to be confused with sentence-final perfect *le*, cf. Erlewine 2017), as in (32).

(32) *Structural height with the perfective adverb -yijing*

- a. Ta **you** yijing shiqu-le zongying.
 3SG again already disappear-PFV trace
 ‘His trace again disappeared already.’
 (Facebook, 2017-6-3)
- b. *Ta **zai** yijing shiqu-le zongying.
 3SG again already disappear-PFV trace
 Int.: ‘His trace again disappeared already.’

For *zai* to co-occur with *yijing*, it must follow *yijing*:

- (33) Danshi wo yijing **zai** zhao-le nanpengyou le.
 but 3SG already again find-PFV boy.friend PRF
 ‘But I have already found another boyfriend.’
 (Internet, 2016-5-31)

The pattern extends to the progressive marker (*zheng*)*zai*. *You* can precede the progressive marker (*zheng*)*zai* in (34a), whereas *zai* ‘again’ cannot in (34b).

(34) *Structural height with the progressive prefix (zheng)zai*

- a. Wo jia de mao **you** (zheng)zai gan guai shi le.
 1SG house POSS cat again PROG do weird thing PRF
 ‘The cat in my house is doing weird things again.’
 (<https://www.books.com.tw/products/0010771229>, with *zheng* added)

6. Note that *-guo* can be used with a future modal *hui* as in (i). Hence, the ungrammaticality of (31b) is due to the incompatibility between *zai* and *-guo*.

(i) Wo mingnian zhe-ge shihou jiu **hui** yijing qu-guo Xianggang le.
 1SG next.year this-CL time then will already go-EXP Hong.Kong PRF
 ‘Next year, I would have been to Hong Kong at that point already.’

- b. Wo jia de mao hui **zai** (*zai /*zhengzai) gan guai shi.
 1SG house POSS cat will again PROG PROG do weird thing
 Intended: ‘The cat in my house will be doing weird things again.’

Again, it is possible to place *zai* after (*zheng*)*zai*. *You*, in contrast, cannot follow (*zheng*)*zai*:

- (35) Women zhengzai {**zai**/ ***you**} zou Ribenren-de laolu me?
 1PL PROG again again walk Japanese-DE old.path SFP
 ‘Are we going to again follow Japanese’s old path?’
 (<http://www.obj.cc/thread-58234-1-1.html>, 2010-3-26, with *you* added)

The correlation observed in (31–34) with skipping is generalized in (36).⁷

(36) *Correlation II*

An ‘again’-type element exhibits exceptional scopal behavior *iff* it is structurally higher than aspectual elements.

Before proceeding to the proposal, we note that *you* and *zai* may co-occur, but with a fixed order—only *you zai*, but not *zai you*, is acceptable as in (37).⁸ In other words, *you* is syntactically higher than *zai*, consistent with the above two correlations.

- (37) a. **You zai** shang-le laotou yi-wan jiu.
 again again give-PFV old.man one-CL wine
 ‘(He) again gave the old man a bowl of wine.’
 (<https://www.takungpao.com/culture/237140/2025/0225/1062729.html>, 2025-2-25)
- b. ***Zai you** shang-le laotou yi-wan jiu.
 again again give-PFV old.man one-CL wine
 Int.: ‘(He) again gave the old man a bowl of wine.’

3 Analysis: Variable nonfinite clause sizes and aspect licensing

Our proposal for the exceptional scopal behavior of *you* consists of two components. First, following N. Huang (2018), C.-T. J. Huang (2022), He (2024), and Liu (2024), we assume that nonfinite clauses can range from as small as vP which lacks (outer) AspP, the so-called restructuring clauses, to as big as TP (sometimes also labeled as WollP), whereas finite clauses are CPs:

(38) *Verb complement clause sizes*

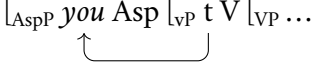
- | | | |
|----|--|---------------------------------|
| a. | V [CP ...[TP ...[AspP ...[vP ...[VP ...]]]]] | <i>type I (finite)</i> |
| b. | V [TP ...[AspP ...[vP ...[VP ...]]]]] | <i>type II (nonfinite)</i> |
| c. | V [vP ...[VP ...]]] | <i>type III (restructuring)</i> |

7. *Zai* ‘again’ may precede aspectual negation *meiyou* ‘have not’, but the resulting expression *zai meiyou* conveys ‘not ever again’ rather than ‘again (do) not’, displaying a scopal mismatch. We set aside this case for now.

8. Curiously, the meaning of *you zai* does not add up to indicate the action to occur the third/fourth time (i.e., ≠ re-occur again), but simply the second time. Without going into details, we suggest that it is due to the presuppositional nature of ‘again’ and that *you*’s semantic input is only the truth-conditional content without *zai*’s presupposition.

Second, we propose that there are two surface positions for ‘again’ in Mandarin (cf. Lin and Liu 2009): high ‘again’ (*you*) associates with and moves to (outer) AspP as in (39a), whereas low ‘again’ (*zai*) does not move and remains within vP as in (39b).⁹ Anticipating a split aspect approach (e.g., Tsai 2008; Travis 2010), we clarify that the aspect discussed in this section is the outer aspect (see Section 5).

- (39) a. *High ‘again’*

$$[_{\text{AspP}} \textit{you} \textit{Asp} [_{\text{vP}} \textit{t} \textit{V} [_{\text{VP}} \dots]]]$$

- b. *Low ‘again’*

$$[_{\text{AspP}} \textit{Asp} [_{\text{vP}} \textit{zai} \textit{V} [_{\text{VP}} \dots]]]$$

3.1 Aspect lowering: Diagnosis of nonfinite clause sizes

Regarding the first component of our proposal, we take an excursion in this subsection to highlight its critical motivating evidence from *aspect lowering*. Aspect lowering refers to the scopal mismatch where aspectual suffixes like the experiential suffix *-guo*, when appearing in a nonfinite clause, take scope over the matrix predicate (C.-T. J. Huang 1989; Y.-H. A. Li 1990; J.-W. Lin 2006; Grano 2014; N. Huang 2018). Some examples are illustrated in (40). The interpretation is similar to placing *-guo* on the matrix predicate like *quan* ‘urge’ in (41).¹⁰

- (40) *Nonfinite clause-taking predicate: High interpretation of -guo*
- a. Lisi shefa [xiuli-guo zhe tai jiqi].
 Lisi try repair-EXP this CLF machine
 *Narrow scope: ‘Lisi tries to have repaired this machine.’
 Wide scope: ‘Lisi has tried to repair this machine.’
(N. Huang 2018:351)
- b. Zhangsan (congqian) quan Lisi [jie-guo yan].
 Zhangsan before urge Lisi quit-EXP cigarette
 *Narrow scope: ‘Zhangsan urged Lisi to have quit smoking (before).’
 Wide scope: ‘Zhangsan has (before) urged Lisi to quit smoking.’
(C.-T. J. Huang 2022:32, adapted)
- c. Zhangsan (congqian) bi Lisi [xuan-guo weijifen].
 Zhangsan before force Lisi choose-EXP calculus
 *Narrow scope: ‘Zhangsan has forced Lisi to have chosen calculus (before).’
 Wide scope: ‘Zhangsan has (before) forced Lisi to choose calculus.’
- (41) Zhangsan (congqian) quan-guo Lisi [jie yan].
 Zhangsan before urge-EXP Lisi quit cigarette
 *Narrow scope: ‘Zhangsan urged Lisi to have quit smoking (before).’
 Wide scope: ‘Zhangsan has (before) urged Lisi to quit smoking.’

9. We assume that head movement of V^0 to v^0 takes place postsyntactically at the PF. See Chomsky 2000 for more detailed discussion and Cheng, Yi, and Xiong 2016 for a related proposal with PF lowering in Chinese. This theoretical choice does not bear on our proposal though. For expository purposes, we do not show PF movement throughout the paper.

10. For independent reasons, *-guo* cannot attach to *shefa* ‘try’. However, the scopal mismatch is still possible in (40a), suggesting that there is no correlation between aspect lowering and the matrix predicates’ compatibility with *-guo*.

The above scopal mismatch is not found when the aspectual suffix is embedded in a finite clause, as shown in (42), and thus can be used as a test for nonfinite clause-taking predicates.

- (42) *Finite clause-taking predicate: Low interpretation of -guo*
 Zhangsan shuo/xiangxin [Lisi (congqian) jie-guo yan].
 Zhangsan say/believe Lisi before quit-EXP cigarette
 Narrow scope: ‘Zhangsan says/believes that Lisi has quit smoking (before).’
 *Wide scope: ‘Zhangsan has said/believed that Lisi quits smoking (before).’
 (C.-T. J. Huang 2022:32, with *xiangxin* added)

The high interpretation of *-guo* above indicates a lack of actuality entailment of the embedded event. For example, the felicity of (40b) does not require that Lisi accepted Zhangsan’s suggestion and actually quit smoking. This obligatory wide scope can be made even more explicit by adding an aspectual marker like the progressive *(zheng)zai* in the matrix, which results in a conflict in aspectual meaning:

- (43) *Matrix progressive + embedded experiential ~> matrix aspect clash*
 *Zhangsan *(zheng)zai* quan Lisi [jie-guo yan].
 Zhangsan PROG urge Lisi quit-EXP cigarette
 Intended: ‘Zhangsan is urging Lisi to have quit smoking.’ or ‘Zhangsan has been urging Lisi to quit smoking.’

For this reason, we take the lack of actuality entailment to be a signal of aspect lowering, i.e., an embedded *-guo* being interpreted with respect to the matrix aspect. Put differently, aspect lowering is observed only when the event denoted by the embedded predicate is not necessitated to happen.¹¹

The existing accounts of aspect lowering (Grano 2014; N. Huang 2018; C.-T. J. Huang 2022) assume a lexicalist view on verb suffixation (Gu 1993, 1995; Huang, Li, and Li 2009; S.-W. Tang 2010, 2015; cf. Chomsky 1970, 1993). The lexicalist approach posits that verbal suffixes are base-generated with the verbal root as a lexical V^0 in the syntax, rather than projecting a functional head that attracts overt head movement.¹² The suffixed verbs need to be licensed by an Asp^0 , which may be achieved by covert LF raising (e.g., Gu 1995) or agreement (e.g., Grano 2014). This paper adopts the second option, as schematized in (44).

- (44) $[_{AspP} Asp [_{VP} V\text{-suffix} \dots]$ *licensing suffixes by aspectual agreement*
- 

Following this lexicalist view, aspect lowering is analyzed as an instance of aspect agreement across (nonfinite) clause boundaries. Adopting the assumption that Mandarin nonfinite clauses may lack a local $AspP$ and be as small as vPs , an aspectual suffix embedded in a nonfinite clause has to agree with matrix Asp^0 , thus acquiring matrix scope (Grano 2014; N. Huang 2018; C.-T. J. Huang 2022; cf. Liu 2021, 2024), as illustrated in (45) with the experiential aspect.¹³

11. Grano (2014, 1–2 fn. 1) mentions that for some speakers, an actuality entailment is required when *-guo* is embedded in nonfinite clauses (i.e., both matrix and embedded events are realized). We, as well as our Mandarin consultants, do not share this requirement. See also Grano and Zhang (2019) for experimental evidence that no actuality entailment of the embedded event is required.

12. For the alternative nonlexicalist view in Chinese languages, see S.-W. Tang (1998, 2003, 2006), Tsai (2001, 2008), Chan, Lee, and Yip (2022), and Lee and Yip (2024).

13. While we follow previous literature on aspect lowering in assuming the lexicalist approach, we note that it is not impossible to implement aspect lowering under a nonlexicalist approach, as long as suffixes themselves do not carry the aspectual semantics. For example, one may assume that verbal suffixes project $AspP$ in the embedded clause, and agree with an aspectual operator in matrix $SpecAspP$. We leave the comparison between these two approaches to future work.

(45) $[\text{AspP}_{\text{matrix}} \text{Asp}_{[\text{EXP}]} [\text{vP}_{\text{matrix}} \text{V} \dots [\text{vP}_{\text{embedded}} \text{V-guo}_{[\text{EXP}]} \dots$

(N. Huang 2018:360, with experiential aspect features [EXP] added)

Here arises the question of whether nonfinite clauses can be bigger than AspP in Mandarin, and the answer is affirmative (N. Huang 2018; C.-T. J. Huang 2022). They can be as large as TPs to host (a) the semicomplementizer *shuo*, (b) the adverb *ye* ‘also’, and (c) internal foci.¹⁴ We know that these clauses are still nonfinite since overt subjects and future modal *hui* ‘will’ are disallowed (see C.-T. J. Huang 2022 for discussion). Importantly, the presence of these elements (a–c) are incompatible with aspect lowering.¹⁵ In (46), for example, embedded *-guo* cannot be interpreted with respect to the matrix predicates.

(46) a. *Semicomplementizer shuo blocking aspect lowering*

*Lisi cengjing shefa [shuo zuo-guo zhe dao cai].

Lisi previously try COMP make-EXP this CLF dish

Intended: ‘Lisi has previously tried to cook this dish.’

(C.-T. J. Huang 2022:49)

b. *Adverb ye ‘also’ blocking aspect lowering*

*Lisi cengjing shefa [ye zuo-guo zhe dao cai].

Lisi previously try also make-EXP this CLF dish

Intended: ‘Lisi has previously tried to also cook this dish.’

(C.-T. J. Huang 2022:50)

c. *Internal focus blocking aspect lowering*

*Zhangsan bi Lisi [lian weijifen dou xuan-guo].

Zhangsan force Lisi even calculus all choose-EXP

Intended: ‘Zhangsan has forced Lisi to choose even calculus.’

The data we have seen above suggest that when the embedded clause is so large that it encompasses

14. The categorial status of the semicomplementizer *shuo* has been debated. While the majority of literature analyzes it as (phasal or nonphasal) C^0 (N. Huang 2018; J. Huang 2021; cf. Yeung 2006), different views have been raised. See Paul 2014 for problematic cases, Ye 2024 for a compound view for communicative verbs, and Yuan and Saito 2021 for matrix sentence-initial *shuo* as an evidential head. C.-T. J. Huang (2022) even proposes that *shuo* enters the derivation as C^0 but cliticizes to the preceding verb with structural removal (*exfoliation*) of the CP layer (i.e., leaving behind a TP layer). We follow his approach and assume that *shuo* at least indicates a TP-sized clause, and we leave open whether it occupies C^0 or a lower functional head in TP. Our proposal is compatible with either view, with only a minimal change in the former view that finite CPs might have a richer peripheral structure than nonfinite *shuo* CPs (cf. Rizzi 1997).

15. There is another test that C.-T. J. Huang (2022) proposes to be a diagnosis of large nonfinite clauses, internal topicalization. He demonstrates this using the following example where the object is topicalized in a nonfinite clause.

(i)*Wo changshi [zhe zhong shousi chi-guo t].

1SG try this kind sushi eat-EXP

Intended: ‘I have tried to eat this kind of sushi.’

(C.-T. J. Huang 2022:50)

We agree with C.-T. J. Huang and find this example to be unacceptable under both high and low interpretations of *-guo*. However, we notice that high attachment of *-guo* is also impossible in this case:

(ii)*Wo changshi-guo [zhe zhong shousi chi t].

1SG try-EXP this kind sushi eat

Intended: ‘I have tried to eat this kind of sushi.’

Prompted by this observation, we follow Chen and Yip (to appear) and claim that the above examples are deviant due to an independent violation of antilocality of the internal topic movement itself. Evidence includes the observation that (ii) can be rescued by inserting a manner adverb in the embedded clause. In this case, aspect lowering is possible with internal topicalization. Interested readers are referred to Chen and Yip (to appear) for more discussion.

a C^0 or even just T^0 , an aspectual suffix cannot agree with matrix Asp^0 , which either yields a low interpretation or ungrammaticality:

- (47) a. *Finite clauses like (42)* (under the high interpretation)
 $*[AspP_{matrix} Asp_{[EXP]} [vP_{matrix} V \dots [CP_{embedded} C [vP_{embedded} V-guo_{[EXP]} \dots$
- b. *Nonfinite clauses like (46)*
 $*[AspP_{matrix} Asp_{[EXP]} [vP_{matrix} V \dots [TP_{embedded} T [vP_{embedded} V-guo_{[EXP]} \dots$

While N. Huang and C.-T. J. Huang derive the impossibility of matrix aspect agreement in these constructions from the phasal head status of C^0 and from the intervening temporal features of T^0 , we offer a unified analysis, categorizing all these cases under (defective) intervention effects (Chomsky 2000). We follow Cinque's (1999) functional sequencing and assume that functional heads like Asp^0 are selected by T^0 and always projected. However, not all Asp^0 heads possess the relevant licensing features of aspectual suffixes. For nonfinite clause-taking predicates, they are semantically incompatible with the experiential aspect in embedded clauses. Hence, the embedded Asp^0 does not come with the experiential [EXP] features (but with other features like static aspect [-D], see Section 3.4), and cannot license the embedded *-guo* which requires [EXP], as schematized in (48a). Nevertheless, it is also impossible for *-guo* to agree with the matrix Asp^0 that has [EXP], due to the intervention by the embedded Asp^0 as in (48b). According to Chomsky (2000), even elements partially matching in features induce defective intervention effects. (See also Rizzi 2001 for a similar effect implemented under Relativized Minimality with *superfeatures*.) As a result, neither aspect lowering nor local licensing is allowed with TP-sized nonfinite clauses, leading to ungrammaticality.

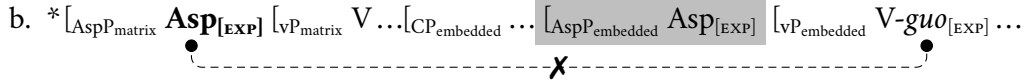
(48) *Defective intervention effects with nonfinite TPs*

- a. $*[AspP_{matrix} Asp_{[EXP]} [vP_{matrix} V \dots [TP_{embedded} \dots [AspP_{embedded} Asp_{[-D]} [vP_{embedded} V-guo_{[EXP]} \dots$
- b. $*[AspP_{matrix} Asp_{[EXP]} [vP_{matrix} V \dots [TP_{embedded} \dots [AspP_{embedded} Asp_{[-D]} [vP_{embedded} V-guo_{[EXP]} \dots$

Of course, under finite clauses taken by predicates like *shuo* 'say', the embedded Asp^0 may have [EXP]. The embedded *-guo* must then agree with the closest Asp^0 , the embedded one rather than the matrix one, as required by the locality constraint on Agree (e.g., Chomsky 2000). Thus, embedded *-guo* is still licensed and yields a low interpretation, only that aspect lowering is impossible due to (standard) intervention effects, as illustrated in (49).

(49) *Intervention effects with finite CPs*

- a. $[AspP_{matrix} Asp_{[EXP]} [vP_{matrix} V \dots [CP_{embedded} \dots [AspP_{embedded} Asp_{[EXP]} [vP_{embedded} V-guo_{[EXP]} \dots$



Summing up, aspect lowering offers a solid diagnosis of restructuring vP clauses (see C.-T. J. Huang 2022 for another diagnosis using clitic climbing of *suo*). It differs from other cross-clausal dependencies in the (in)capacity of crossing nonfinite TPs. For example, as argued by N. Huang (2018), topicalization of clause-internal topics following subjects, while also finite-CP-bounded, may cross a nonfinite-TP boundary with semicomplementizer *shuo*, as in (50) (see also Shyu 1995; C.-T. J. Huang 2022; Chen 2023, 2025 and references therein).

(50) *Internal topicalization crosses nonfinite TPs but not finite CPs*

- a. *Wo [zhe-pian baogao] xiangxin [CP Lisi xie-wan-le t].
 1SG this-CLF report believe Lisi write-finish-PFV
 Int.: ‘I believe that Lisi has already written this report.’ (N. Huang 2018:351)
- b. Lisi [zhe-pian baogao] hui shefa [TP (shuo) zai zhe-zhou-nei xie-wan t].
 Lisi this-CL report will try COMP at this-week-in write-finish
 ‘Lisi will try to finish writing this report this week.’ (N. Huang 2018:359)

On the other hand, external topicalization, with a landing site before subjects, may freely cross a finite-CP boundary, as in (51) (see Chen 2023, 2025 for a proposal with Composite A/A’ Probes and A’-Probes for the internal-external distinction).

(51) *External topicalization crosses finite CPs*

- [Zhe-pian baogao], wo xiangxin [CP Lisi xie-wan-le t].
 this-CLF report 1SG believe Lisi write-finish-PFV
 ‘This report, I believe that Lisi has already written.’

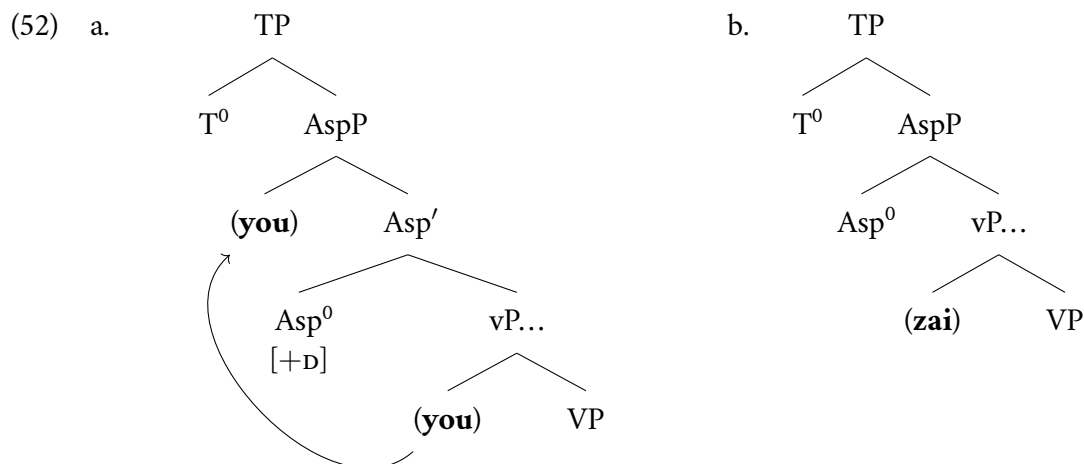
Together, we see that there are three locality profiles of complement clauses. Finite CPs form the most opaque domain, less so for nonfinite TPs, and even less so for restructuring vPs (i.e., vPs are the most transparent). Their distinction is confirmed by the contrast between three types of cross-clausal dependencies: the most liberal external topicalization, the more restricted internal topicalization, and the most restricted aspect lowering. This finding suggests that complement clauses in Chinese should not be dichotomized into merely [+finite/tense] vs. [−finite/tense] clauses (contra T.-H. J. Lin 2011; Zhang 2019) or even vP vs. CP clauses (contra Grano 2012, 2014, 2015). Rather, there is a gradient structural distinction of complement size: vP, TP, and CP (N. Huang 2018; C.-T. J. Huang 2022; He 2024), among which vP stands out in lacking an AspP.¹⁶ We will see how this component plays a crucial role in deriving the exceptional scopal behavior of *you* in the next subsection.

3.2 Deriving *you*’s exceptional scopal behavior

Apart from the gradient view on complement clause size, our proposal has the second component of aspect licensing of ‘again’-type elements. We suggest that both *you* and *zai* are base-generated within the v/VP level as adjuncts, but they surface in different positions (cf. Lin and Liu 2009). We argue that *you* surfaces at the AspP level, which is a result of *you*’s association with AspP by movement (following

16. Of course, following the cartographic spirit, we do not deny the possibility of more complement clause sizes such as AspP, FinP, ForceP, etc. What we propose is that there is a trichotomy of locality profiles regarding cross-clausal phenomena, and other possible sizes fall into one of the three types (e.g., AspP patterning with TP).

T. Xu 2012, 2016 and Liu 2021, 2024).¹⁷ *Zai*, on the other hand, stays within the vP and does not associate with the AspP above.¹⁸ The positional difference is evidenced by their (in)compatibility with aspectual elements in Section 2.2 (Correlation II in (36)). Concretely, we follow Lin and Liu’s (2009) proposal that *you* is licensed by [+D] on the closest Asp⁰, formulated here as feature checking with an unvalued dynamic feature [*u*+D] on *you*. Such a feature is absent in *zai*, as we have seen in the embedding patterns in Section 2.2 (Correlation I in (30)). The structural difference between *you* and *zai* is diagrammed in (52).



As discussed in Section 2.2, one key motivation of [+D] licensing of *you* in Lin and Liu (2009) comes from *you*’s resistance to embedding under predicates like *xiang* ‘want’, which cannot embed perfective *-le* with [+D] either. This licensing should be syntactic rather than semantic in nature, since *you* can take narrow scope to “skip” *xiang* with a [−D] predicate in the complement clause. In other words, *you* in principle can be interpreted with a [−D] predicate, as long as *you* itself is syntactically licensed by some [+D] Asp⁰. We take Lin and Liu’s (2009) [+D] licensing at face value without probing into its origin, and we will see how this component makes the right prediction on our data below.

Let us see how the proposal derives the wide scope readings of *you*, such as the one in (53) (reproduced from (12a)).

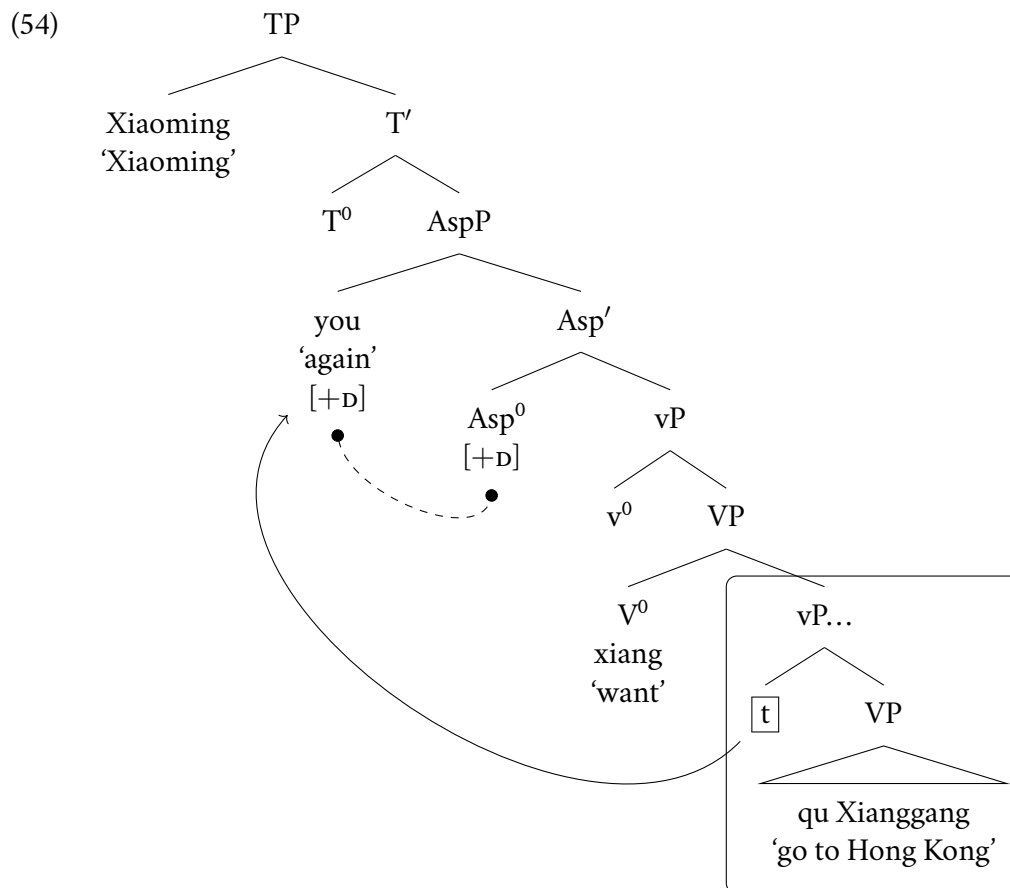
- (53) Xiaoming **you** xiang [qu Xianggang].
 Xiaoming again want go Hong.Kong
 ‘Xiaoming wants to again go to Hong Kong.’

17. Some may question the mobility of the adverb *you*. As defended by T. T.-M. Lee (2024), the Cantonese counterpart *jau* can move across a quantificational subject to gain semantic effects, whose pattern is reduplicatable for Mandarin *you*, as shown below with an exclusive focus subject. See T. T.-M. Lee (2024) for detailed arguments of the movement analysis.

- (i) a. Jiu [yi-ge ren]_F **you** kaodao-le hao chengji.
 only one-CL person again get-PFV good score
 ‘Only one person again got a decent score (i.e., everyone else did not get a decent score this time, though they might perform well the previous time).’
- b. **You** jiu [yi-ge ren]_F kaodao-le hao chengji.
 again only one-CL person get-PFV good score
 ‘Again, only one person got a decent score (i.e., everyone else did not get a decent score the previous time and this time).’

18. It is possible that *zai* also moves to a vP-internal position (from VP), which will be identified as an inner aspect projection in Section 5. What suffices here is that *zai* does not move out of vP.

The derivation of (53) is sketched in (54).¹⁹ First, the embedded clause is vP-sized and does not contain an AspP. Second, *you* moves to the specifier position of the *matrix* AspP in overt syntax in order to value its dynamic feature. Third, at LF, *you* reconstructs to the base-generated position (indicated by the boxed trace) to yield the narrow scope reading, “skipping” the scope of the matrix predicate ‘want’. This is how the exceptional scopal behavior across restructuring clauses is derived.²⁰



In comparison, when the matrix verb is a finite clause-taking predicate like ‘believe’, the embedded CP must have a [+D] AspP, capable of licensing *you*. Since *you* cannot move to the matrix AspP, high pronunciation is always a result of base generation in the *matrix* clause. There would be no trace in the embedded clause to reconstruct back to, hence the lack of narrow scope across CP boundaries. This explains the scopal contrast of *you* across finite vs. nonfinite clauses (i.e., Generalization II (20) in Section 2.1).

(55) *Low interpretation of you with a finite clause-taking predicate*

(Intended:) ‘(Xiaoming) believes that there again appeared coronavirus.’ (cf. (17))

a. *Low pronunciation: OK*

[_{AspP_{matrix}} ... [_{vP} ‘believe’ [_{CP} ... [_{AspP_{embedded}} **you** Asp_[+D] [_{vP} t ‘coronavirus appeared’]]]]]]

19. Head movement and subject movement are omitted for simplicity.

20. The *you* movement analysis raises a learnability question as to how children acquire the ambiguity of *you* when all its possible readings surface in the same surface position. We refer interested readers to Xu, Snyder, and Christie (2022, 2024) for a comprehensive discussion on this.

b. *High pronunciation: **

*_{[AspP_{matrix} you ..._{[vP 'believe' [CP ... [AspP_{embedded} Asp_[+D] [vP t 'coronavirus appeared']]]]]]}}

Unlike *you*, *zai* does not move to AspP above vP and thus, there is no reconstruction across restructuring clause boundaries. It is always interpreted locally in its base-generated position at the vP level and does not exhibit exceptional scopal behavior. In other words, it displays a “what you see is what you get” scope, as in (56). Up to this point, we have derived Generalization I (16) in Section 2.1.

(56) a. *High pronunciation: High interpretation*

Xiaoming hui <sub>[AspP [vP_{matrix} **zai** [vP xiang [vP-embedded qu Xianggang]]]]].
 Xiaoming will again want go Hong.Kong
 ‘Xiaoming will again want to go to Hong Kong.’</sub>

b. *Low pronunciation: Low interpretation*

Xiaoming <sub>[AspP [vP_{matrix} xiang [vP_{embedded} **zai** [vP qu Xianggang]]]]].
 Xiaoming want again go Hong.Kong
 ‘Xiaoming wants to again go to Hong Kong.’</sub>

3.3 Predictions for nonfinite clauses larger than vP

Recall from Section 3.1 that (a) the semicomplementizer *shuo*, (b) the adverb *ye* ‘also’, and (c) internal focus fronting signal a complement that is as large as a TP and thus contains AspP. Since AspP triggers (defective) intervention effects to aspect lowering, we expect it to also intervene the movement of *you* to matrix AspP. We therefore predict that these TP-signaling elements should block the exceptional scopal behavior of *you*. Our prediction is borne out, as illustrated below.

In (57), we have the context from (12a)/(53), where Xiaoming wants to go to Hong Kong now, went to Hong Kong before, but did not want to go to Hong Kong before. The example here is minimally different from the baseline example (12a)/(53) in that its embedded clause is now headed by the semicomplementizer *shuo*. Here, while the wide scope reading of *you* remains infelicitous (as it is not supported by the context), the narrow scope reading becomes unavailable.²¹

(57) *Complementizer shuo blocking you skipping*

(Yesterday, Xiaoming took a business trip to Hong Kong for work, despite not wanting to travel, as he was compelled by his boss. Unfortunately, he did not complete the work before returning. Today, worried about getting fired for not finishing the work, he wants to go back to Hong Kong again to finish it.)

Xiaoming **you** xiang [shuo qu Xianggang].

Xiaoming again want COMP go Hong.Kong

* Narrow scope: ‘Xiaoming wants to again go to Hong Kong.’

Wide scope: ‘Xiaoming again wants to go to Hong Kong.’

21. C.-T. J. Huang (2022) judges examples along the lines of (57) to be acceptable, but our consultants reported uniform unacceptability. This tension also applies for the upcoming examples (59–60), which concern the adverb *ye* ‘also’ and internal foci. It is possible that there exist dialect variations between Mainland Mandarin and Taiwan Mandarin, which we leave for future research.

We attribute this unavailability of the narrow scope reading to the clause size of the embedded clause: as in (58), when the semicomplementizer *shuo* is present, the embedded clause must be (as least) TP (cf. fn. 14) and include an AspP. The embedded Asp⁰ only carries [-D] and cannot license *you*, but it still induces defective intervention effects and blocks the movement to matrix AspP (as well as agreement with Asp⁰).

(58) *Defective intervention effects to you movement*

*_{[AspP-matrix you Asp_[+D] ..._{[vP 'want' [TP shuo ... [AspP-embedded Asp_[-D] [vP t 'go to HK']]]]]}}

As for testing whether the adverb *ye* ‘also’ blocks *you* skipping, the context of interest should involve at least two parallel events of someone having gone to Hong Kong reluctantly. A context like this is provided in (59), where the example is minimally different from the example (12a)/(53) in that its embedded clause now contains *ye* ‘also’.²²

(59) *Adverb ye ‘also’ blocking you skipping*

(The day before yesterday, Xiaoming and Xiaohong’s boss forced Xiaohong to go to Hong Kong, and she came back. Yesterday, the boss forced Xiaoming to go to Hong Kong, and he came back. Today, the boss forced Xiaohong but not Xiaoming to go to Hong Kong. However, secretly admiring Xiaohong, Xiaoming wants to go to Hong Kong again today.)

Xiaoming **you** xiang [*ye* qu Xianggang].

Xiaoming again want also go Hong.Kong

* Narrow scope: ‘Xiaoming wants to again go to Hong Kong, too.’

Wide scope: ‘Xiaoming again wants to go to Hong Kong, too.’

Once again, we observe that the narrow scope reading becomes unavailable, aligning with our predictions. A similar observation is made with internal foci:

(60) *Internal focus blocking you skipping*

(In his undergraduate years, Xiaoming was a very lazy student and was bad at math. He hated taking math courses, but he was forced by his advisor to take calculus. When Xiaoming moved on to pursue a PhD, however, he became an overachieving student and became a math expert. Now, he does want to take calculus.)

Xiaoming **you** xiang [*lian weijifen dou* xuan].

Xiaoming again want even calculus all choose

* Narrow scope: ‘Xiaoming wants to again choose even calculus.’

Wide scope: ‘Xiaoming again wants to choose even calculus.’

We summarize these phenomena and their (in)compatibility with aspect lowering and *you* skipping in Table 3.

3.4 Further specifications of predicate selection

In closing this section, we fully spell out the additional specifications that we make on the selectional constraints of different types of embedding predicates. As discussed in Section 3.1, we follow previous

22. When *you* ‘again’ is absent, (59) with *ye* ‘also’ is felicitous under the given context. The same goes for (60) with *lin...dou* ‘even’ internal focus.

	Clause size	Aspect lowering	<i>You</i> skipping
Taken by ‘believe/say’	CP	✗	✗
Semicomplementizer <i>shuo</i>	TP	✗	✗
Adverb <i>ye</i> ‘also’	TP	✗	✗
Internal focus	TP	✗	✗
None of the above	vP	✓	✓

Table 3: Finiteness tests, their clause sizes, and whether they allow aspect lowering and *you* skipping in Mandarin

works and claim that finite clauses are CPs and nonfinite clauses are vPs or TPs. We further specify that when a nonfinite clause-taking predicate selects a complement larger than AspP, they distinguish whether their semantics tolerates a dynamic ([+D]) aspect feature.

Specifically, *xiang* ‘want’ is semantically incompatible with [+D] in its complement. It selects a nonfinite clause that is either vP or a TP with a [-D] AspP. In contrast, *rang* ‘let’ is flexible and allows for its complement to contain [+D] AspPs or not. As discussed in Section 2.2, *xiang* and *rang* differ in whether they can embed perfective aspectual suffix *-le*. On the other hand, *xiangxin* ‘believe’ represents a finite clause-taking predicate that must take a CP, which contains a TP and AspP with [+D] or other aspectual features like [EXP]. We summarize their selectional constraints in Table 4.

	vP	TP with [-D] AspP	TP with [+D] AspP	CP
<i>Xiang</i> ‘want’	✓	✓	#	*
<i>Rang</i> ‘let’	✓	✓	✓	*
<i>Xiangxin</i> ‘believe’	*	*	*	✓

Table 4: Selectional constraints of different predicates in Mandarin

We have seen in Section 2.2 that the complement clause of *rang* ‘let’ can take [+D] AspP: it may embed *you*. An example is illustrated below in (61). Here, *you* must agree with the closest [+D] Asp⁰.

- (61) a. Zhangsan rang Lisi [**you** qu yi ci Xianggang].
 Zhangsan let Lisi again go one time Hong.Kong
 ‘Zhangsan let Lisi again go to Hong Kong.

- b. [_{Asp_{matrix}} ... [_{vP} ‘let Lisi’ [_{TP} ... [_{Asp_{embedded}} **you** Asp_[+D] [_{vP} t ‘go to HK’]]]]]]

We then predict that aspect lowering should be unavailable in sentences like (61), since the presence of [+D] Asp is not enough to license *-guo* due to the lack of [EXP] but still blocks agreement between *-guo* and matrix Asp⁰ due to defective intervention.

This prediction is correct, as shown in (62). Here, the context supports a reading where (a) *you* takes narrow scope, whereas (b) the experiential aspect takes wide scope. That is, (a) the presupposed antecedent event is with respect to the embedded predicate (i.e., Lisi went to Hong Kong before), and (b) the matrix predicate is realized so that there is no entailment of the embedded predicate’s actuality (i.e., Lisi did not *again* go to Hong Kong). With matrix *you* and embedded *-guo* in (62a), the

intended reading is obtained. In other words, both aspect lowering and *you* skipping are possible simultaneously. When *you* is embedded in (62b), however, aspect lowering becomes unavailable.

(62) *Wide scope context: EXP > ‘let’ > ‘again’ > ‘go’*

Zhangsan is Lisi’s boss. Two years ago, Lisi went to Hong Kong for traveling. It was not Zhangsan who let him do that; Lisi himself wanted to go there. Last year, Zhangsan asked Lisi to go to Hong Kong, but Lisi declined and didn’t make the trip.

a. *Aspect lowering and matrix you: OK*

Zhangsan **you** rang Lisi [qu-guo yi ci Xianggang].

Zhangsan again let Lisi go-EXP one time Hong.Kong

Wide scope -*guo*; narrow scope *you*: ‘Zhangsan has let Lisi again go to Hong Kong.’

b. *Aspect lowering and embedded you: #*

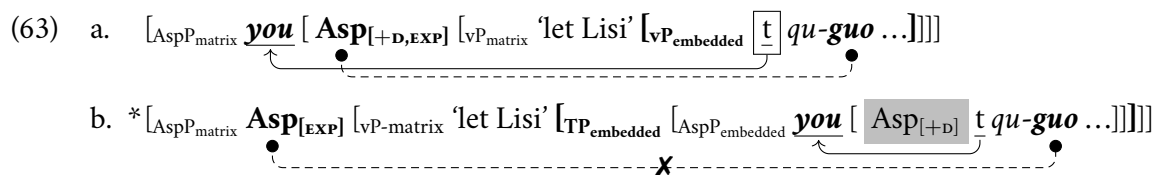
#Zhangsan (cengjing) rang Lisi [**you** qu-guo yi ci Xianggang].

Zhangsan before let Lisi again go-EXP one time Hong.Kong

#Narrow scope *you* and -*guo*: ‘Zhangsan lets Lisi have again gone to Hong Kong (before).’

*Wide scope -*guo*; narrow scope *you*: ‘Zhangsan has let Lisi again go to Hong Kong (before).’

The above contrast falls out from the current analysis. Both aspect lowering and *you* skipping are possible in (62a) because the embedded clause size is vP: there is no embedded AspP to intervene. On the contrary, there is an embedded [+D] AspP to which *you* moves locally in (62b). This [+D] AspP lacks [EXP] and acts as a defective intervener to -*guo*’s agreement with the matrix AspP.



4 Postverbal ‘again’-lowering in Cantonese

Turning to Cantonese, apart from the two preverbal ‘again’ adverbs *jau* (counterpart of *you*) and *zoi* (counterpart of *zai*), it also has two postverbal ‘again’ elements: verbal suffixes -*faan* and -*gwo*.²³ We will show that the two elements exhibit similar asymmetries in exceptional scopal behavior, which is constrained by the two syntactic factors that we have identified for Mandarin: (a) the size of embedded

23. Unlike Mandarin *you*, Cantonese *jau* can be embedded in nonfinite clauses under ‘want’ (i.e., with [-D]), as in (i).

- (i) Aaming soeng [**jau** heoi do ci Hoenggong].
Ming want again go more time Hong Kong
‘Ming wants to go to Hong Kong one more time.’

As far as we know, Cantonese *jau* does not have the *again*-“skipping” behavior, as in (ii). This follows from our proposal: *jau* does not move to an (outer) aspect position from a nonfinite clause, and can only be base-generated in the matrix clause when it is pronounced there. Hence, no reconstruction to the embedded clause can occur (i.e., no “skipping” of the matrix verb).

- (ii) Aaming **jau** soeng [heoi Hoenggong].
Ming again want go Hong Kong
*Narrow scope: ‘Ming wants to again go to Hong Kong.’ (*want > again > go)
Only wide scope: ‘Ming again wants to go to Hong Kong.’ (again > want > go)

clauses and (b) the position of ‘again’. This strikingly parallel pattern supports a general cartography of ‘again’ elements under the split aspect approach.

To begin with, Cantonese verbal suffix *-faan* presumes that a related event has occurred before. It has a repetitive reading as well as resumption and restitutive readings (Zhan 1958; Cheung 1972; Chang 1996; Peng 1999, 2010; S.-W. Tang 2001; Fong 2007), as illustrated in (64). We focus on the repetitive reading in this paper.²⁴

(64) Verbal suffix *-faan* in Cantonese

- a. Ngodei hai-**faan** gosyu ginmin.
 1SG at-again there meet
 ‘Let’s meet there again.’ (repetitive, Peng 2010:96)
- b. Nei zou-**faan** nei ge je, ngo tai-**faan** ngo ge syu.
 2SG do-again 2SG GE thing 1SG read-again 1SG GE book
 ‘You (continue) do(ing) your thing, I (continue) read(ing) my book.’
 (resumption, Zhan 1958:121)
- c. Zap-**faan** zi bat bei ngo.
 pick.up-again CLF pen to 1SG
 ‘Pick up the pen (that fell on the floor) for me.’
 (restitutive/counter-direction, adapted from Zhan 1958:121)

The other suffix *-gwo* also presumes that a related event has occurred, but specifies a different relation between the previous and present events. *-Gwo* in (65) expresses a repetitive reading with a sense of “fixing” undesirable outcomes of previous events (Cheung 1972; Chang 1996; Chen and Li 2006; Yan 2009). This use should be distinguished from the experiential aspect use of *-gwo*.²⁵

(65) Verbal suffix *-gwo* in Cantonese

- M-goi nei se-**gwo** keoi laa!
 please 2SG write-again 3SG SFP
 ‘Please re-write it (to get it right)!’ (repetitive, Cheung 2007:156)

As we will see below, only *-faan* but not *-gwo* allows wide scope across a (nonfinite) clause boundary over the matrix verb, as schematized in (66). That is, ‘again’ is pronounced low but interpreted high, which we refer to as “*-faan* lowering”. This is a mirror image of preverbal ‘again’ adverbs such as *you* in Mandarin, which may be pronounced high and interpreted low (“skipping”).

24. We do not discuss two other homophonous *-faan* morphemes in this paper. The first one has a modal favor “attaining ideal state” (cf. S.-W. Tang 2001). It does not presuppose a past event and is not an ‘again’ element. The second one is a directional complement (i.e., not a verbal suffix) as in *feifaan* ‘fly back’ (similar to *hui* ‘return’ in *feihui* ‘fly back’ in Mandarin, see footnote 30). While this *-faan* is historically related to the ‘again’-suffix *-faan* (see, e.g., Peng 2010), they are distinct synchronically: only the directional complement *-faan* can be suffixed by perfective *-zo* and infixes by *-dak* ‘can’ or *-m* ‘not’.

25. It is common in Chinese languages that an experiential aspectual suffix is homophonous with a repetitive suffix, such as in Hakka, Hokkien/Southern Min, Gan, Southwestern Mandarin, Wu, Xiang, among others (Wen 2020). This suggests some potential grammaticalization path from experiential aspect to the repetitive use, which is beyond the scope of this paper.

- (66) *Cantonese postverbal ‘again’ lowering* (Wide scope over matrix verbs)
 HIGH INTERPRETATION ...[V_{matrix} [V_{embedded}-‘again’ ...] ...] LOW PRONUNCIATION

The relevant examples are given in (67a), where both suffixes are embedded in a nonfinite clause. The embedded predicate denotes an event that cannot be repeated (i.e., ‘killing the boss’).²⁶ While *-faan* may take scope over the matrix verb ‘want’ and give the plausible wide scope reading of repeated desire in (67a), *-gwo* cannot, and only gives the infelicitous narrow scope reading ‘killing the boss again’ in (67b).

(67) Embedded ‘again’ takes wide scope over ‘want’ in Cantonese

[Context: When Ming was a gangster, he always wanted to murder his maniac boss, though he never tried to. He no longer wanted so after he left the gang. Today, he met his boss on the street, who insulted and slapped him. Now, Ming is so angry that he wants to kill him again.]

- a. Aaming soeng [deoilam-**faan** keoi daailou].
 Ming want kill-again 3SG boss
 #Narrow scope: ‘Ming wants to again kill his boss.’ (#want>again)
 Wide scope: ‘Ming again wants to kill his boss.’ (again>want)
- b. #Aaming soeng [deoilam-**gwo** keoi daailou].
 Ming want kill-again 3SG boss
 #Narrow scope: ‘Ming wants to again kill his boss.’ (#want>again)
 *Wide scope: ‘Ming again wants to kill his boss.’ (*again>want)

Note that *-faan* may still give a narrow scope reading: it is scopally ambiguous. The two readings can be disambiguated by placing the preverbal *jau/zoi* ‘again’ before the respective verbs, as in (68a). In contrast, *-gwo* is not scopally ambiguous and has only narrow scope. With matrix *jau/zoi* in (68b), the only reading is a multiple ‘again’ reading with the matrix verb’s scope sandwiched between the two ‘again’ elements (i.e., *jau/zoi* > want > *-gwo*).²⁷

(68) [Context: same as (67)]

- a. Aaming {i. jau/zoi} soeng [{ii. #jau/#zoi} deoilam-**faan** keoi daailou].
 Ming again want again kill-again 3SG boss
 #Narrow scope in (ii): ‘M. wants to again kill his boss.’ (#want>again)
 Wide scope in (i): ‘Ming again wants to kill his boss.’ (again>want)
- b. #Aaming {i. jau/zoi} soeng [{ii. jau/zoi} deoilam-**gwo** keoi daailou].
 Ming again want again kill-again 3SG boss
 #Narrow scope in (ii): ‘M. wants to again kill his boss.’ (#want>again)
 #Sandwiched scope in (i): ‘Ming again wants to again kill his boss.’ (#again>want>again)

Note further that the matrix predicate *soeng* ‘want’ cannot be suffixed by *-faan* or *-gwo*, as illustrated in (69). One may wonder whether such exceptional scopal behavior is a morphological repair for predicates that cannot take verbal suffixes.

26. The verb *deoilam* has a verbal resultative complement *lam* ‘die, (lit.) fall’.

27. The narrow and sandwiched scope readings can be made felicitous in a game world where the characters may resurrect after being killed.

- (69) Aaming soeng(*-faan/*-gwo) deoilam keoi daailou.
 Ming want-again kill 3SG boss
 Int.: ‘Ming again wants to kill his boss.’

For predicates that may take verbal suffixes such as *hyun* ‘urge’ in (70), however, *-faan* lowering is still possible, as shown by *-faan*’s wide scope readings over ‘urge’ in (71a). *-Gwo*, again, lacks such wide scope readings, as in (71b). Thus, the scopal effects are not the result of some last-resort type morphological processes.

- (70) [Context: I used to urge Ming to apply for a PhD. Yet, he kept ignoring me and even became mad at me, so I just gave up. Today, our teacher and I see that the government has additional funding for PhD studies, ...]
- a. Soji ngo (jau) hyun-faan Aaming [bou PhD].
 so 1SG again urge-again Ming apply PhD
 Wide scope: ‘So I again urge Ming to apply for PhD.’ (again>urge)
- b. Soji lousi giu ngo (zoi) hyun-gwo Aaming [bou PhD].
 so teacher ask 1SG again urge-again Ming apply PhD
 Wide scope: ‘So our teacher asks me to again urge Ming to apply for PhD.’ (again>urge)

- (71) Embedded ‘again’ takes wide scope over ‘urge’ in Cantonese
 [Context: Same context with (70)]

- a. Soji ngo (jau) hyun Aaming [bou-faan PhD].
 so 1SG again urge Ming apply-again PhD
 #Narrow scope: ‘So I urge M. to re-apply for PhD.’ (#urge>again)
 Wide scope: ‘So I again urge Ming to apply for PhD.’ (again>urge)
- b. #Soji lousi giu ngo hyun Aaming [bou-gwo PhD].
 so teacher ask 1SG urge Ming apply-again PhD
 #Narrow scope: ‘So our teacher asks me to urge Ming to re-apply for PhD.’ (#urge>again)
 *Wide scope: ‘So our teacher asks me to again urge Ming to apply for PhD.’ (*again>urge)

We have seen cases where *-faan* takes wide scope across a nonfinite clause boundary. Its exceptionally wide scope may even be available across multiple nonfinite clause boundaries. In (72), the deeply embedded *-faan* scopes over the matrix verb ‘want’ across the intermediate verb ‘ask’ and the embedded verb ‘kill’.

- (72) Embedded ‘again’ takes wide scope across multiple nonfinite clause boundaries in Cantonese
 [Context: Ming is an assassin in a gang and I have a personal grudge against his boss. I have thought multiple times to hire Ming to assassinate his boss, but never done so. Today, I met his boss on the street and he insulted and slapped me. Now, I again want to ask Ming to kill him.]
 Ngo (jau) soeng [giu Aaming [deoilaam-faan keoi daailou]].
 1SG again want ask Ming kill-again 3SG boss
 ‘I again want to ask Ming to kill his boss.’ (again>want>ask>kill)

The exceptional scope behavior of postverbal ‘again’ is constrained by two syntactic factors. First, the size/finiteness of the embedded clauses matters. *-faan* lowering is not possible with finite-clause-taking predicates like *seon* ‘believe’ in (73a). The wide scope reading can only be obtained by attaching

-faan to the matrix verb, as in (73b).

(73) Embedded ‘again’ cannot take wide scope over ‘believe’ in Cantonese
[Context: Ming quit being a Christian years ago. Today, he had a traffic accident, and heard God’s voice when he was badly injured. Now, He once again believes that God exists.]

- a. #Aaming seon [jau-**faan** san].
Ming believe have-again God
#Narrow scope: ‘Ming believes that there is again God.’ (#believe>again)
*Wide scope: ‘Ming believes again that there is God.’ (*again>believe)
- b. Aaming seon-**faan** [jau san].
Ming believe-again have God
Wide scope: ‘Ming believes again that there is God.’ (again>believe)

The sensitivity to finiteness is exactly what we have seen for the scope skipping effect of *you*. Such contrasts hold across a wide range of clause-taking predicates: the wide scope interpretation of *-faan* is only allowed with nonfinite-clause-taking predicates, as listed in (74). Finite-clause-taking predicates disallow such exceptionally wide scope and are listed in (75).

(74) nonfinite-clause taking verbs allow embedded *-faan*’s exceptional scope
E.g., *bik* ‘force’, *hyun* ‘persuade/urge’, *giu* ‘ask’, *ceng* ‘invite’, *paai* ‘send’, *soeng* ‘want’, *daasyun* ‘intend’, *gaiwaak* ‘plan’, *zeonbei* ‘prepare’, *hoici* ‘start’, *hoji* ‘may’, *gam* ‘dare’, *hang* ‘be willing’, ...

(75) Finite-clause taking verbs disallow embedded *-faan*’s exceptional scope
E.g., *jingwai* ‘consider’, *soengseon* ‘believe’, *geidak* ‘remember’, *gong* ‘say’, *syunbou* ‘declare’, *honang* ‘be possible’, ...

Second, there is also a positional difference between *-faan* and *-gwo* with respect to aspect. Concretely, *-faan* occupies an outer suffix slot in the verbal template in Cantonese, whereas *-gwo* occupies an inner slot. This echos the pattern in Mandarin where “skipping”-*you* is structurally higher than “non-skipping”-*zai*. For instance, *-faan* is incompatible with (outer) aspectual suffixes. In (76), *-faan* can neither follow nor precede the perfective suffix *-zo*.

(76) *-Faan* cannot follow or precede aspectual suffixes
Ngo jau **tai(*-faan)-zo(*-faan)** ni bun syu.
1SG again read-again-PFV-again this CLF book
Int.: ‘I have read this book again.’

In contrast, *-gwo* preceding *-zo* (i.e., *-gwo-zo*) is much more acceptable than *-gwo* following *-zo* (i.e., **-zo-gwo*), as given in (77). (78) gives two naturally occurring examples from the internet for the *-gwo-zo* sequences. We take the difference between (76) and (77)/(78) to indicate that *-faan* appears in a slot that is associated with a higher position (e.g., outer aspect, as will be argued below) and *-gwo* occupies a slot that is associated with a lower position.

(77) *-Gwo* may precede aspectual suffixes
Ngo zoi **tai([?]-gwo)-zo(*-gwo)** ni bun syu dojatci.
1SG again read-again-PFV-again this CLF book one.more.time
‘I have read this book one more time again.’

- (78) a. ... cungsan **se-gwo-zo** *Baaijanzung* ge daisaam dyun goci.
 again write-again-PFV Bayernhymne GE third line lyrics
 ‘re-wrote the third line of *Bayernhymne*’s lyrics’
 (Wikipedia, 2013-8-26)
- b. Auntie go dinsi waai-zo, **maai-gwo-zo** zek jaagei cyun LG daai Time
 auntie CLF TV break-PFV buy-again-PFV CLF around.20 inch LG with time
 Machine lukjing gungnang ge.
 machine record function GE
 ‘Auntie’s TV is broken. She bought another one, which is around 20 inches and has the
 Time Machine recording function.’
 (Social media, 2018-8-26)

We further observe an asymmetry in the compatibility with *inner* aspect, as instantiated by *phase complements* (PCs). To give some background, PCs refer to postverbal elements expressing the phase/stage of an action (Chao 1965:446–450), such as *hao* in *suo-hao* ‘locked properly’ (*so-hou* in Cantonese), *zhao* in *shui-zhao* ‘slept’ (*fan-zoek* in Cantonese), and *diao* in *mai-diao* ‘sell off/away’ (no Cantonese counterparts), among others (see the Appendix for lists of PCs in Cantonese and Mandarin and tests to distinguish them from resultative verbal complements and suffixes). We refer to them as “inner aspect” since they *precede* outer aspectual suffixes (Tsai 2008; Sybesma 2017; Lu, Lipták, and Sybesma 2019), such as perfective *-le/-zo* in (79).²⁸

(79) PCs preceding aspectual suffixes

- a. Women mai-**diao-le** fangzi. [Mandarin]
 1PL sell-PC-PFV house
 ‘We finally sold the house.’ (adapted from Sybesma 2017:303)
- b. Keoi fan-**zoek-zo**. [Cantonese]
 3SG sleep-PC-PFV
 ‘S/he has slept.’ (Cheung 2007:114)

Turning to Cantonese *-faan* and *-gwo*, only *-faan* is able to follow PCs, as illustrated in (80) from the internet.²⁹ *-Gwo* not only cannot follow PCs, but it also cannot precede PCs, as in (81). In other words, *-gwo* is incompatible with PCs.

28. In Sybesma (2017) and Lu, Lipták, and Sybesma (2019)’s terminology, “inner aspect” refers to aspectual projections below *vP*, including “realization” *-le* in Mandarin (Asp3P, highest), PCs (Asp2P, middle), and resultative complements (Asp1P, lowest). In this paper, we follow Tsai (2008, 683) in preserving the term “inner aspect” for PCs. For the position of *-le*, see the discussion in Section 5. The position of resultative verbal complements (RVCs) is not relevant to the current paper, but see Appendix for discussion.

29. We notice that *-faan* may also precede PCs, as in (i). Verbal suffixes in Cantonese seem to have some flexibility between suffixation and “infixation” as in (ii), forming the so-called “discontinuous predicates” or “separable verbs”. This holds even for monomorphemic verbs like *feilou* ‘fail’ (loanword from English). See Chan, Lee, and Yip (2022) and Lee and Yip (2024) for a thorough discussion.

- (i) Zikzi lukdim zi **fan-faan-zoek**.
 until 6.o’clock then sleep-again-PC
 ‘(I) couldn’t sleep again until 6 am.’ (Forum, 2018-11-16)

(80) -Faan may follow PCs

Jausi taai daaiseng zigei wui seng-jat-seng jau **fan-zoek-faan**.
sometimes too loud self will wake.up.a.bit again sleep-PC-again

'Sometimes (his snoring) is too loud and wakes him up; then he would fall asleep again.' (Forum, 2020-18-28)

(81) -Gwo cannot follow or precede PCs

a. *Bunje zaatseng soeng zoi {**fan-zoek-gwo/ fan-gwo-zoek**}.
midnight wake.up want again sleep-PC-again/ sleep-again-PC

b. Bunje zaatseng soeng zoi **fan-gwo**.
midnight wake.up want again sleep-again

'(I) has accidentally woke up at midnight and wants to sleep again.'

The ordering of *-faan* and *-gwo* with respect to other postverbal elements is summarized in (82). *-Faan* competes with aspectual suffixes in the same position and follows PCs, whereas *-gwo* occupies the same slot as PCs and precedes aspectual suffixes.³⁰

(82) The verbal template in Cantonese³¹

VERBAL ROOT < {PC, -gwo} < {Asp-suffix, -faan}

(ii) a. laai-coeng-**faan**/ laai-**faan**-coeng
pull-long-again pull-again-long
'lengthen again'

(Verb + RVC)

(Chan, Lee, and Yip 2022:26)

b. feilou-**zo**/ fei-**zo**-lou
fail-PFV fail-PFV-fail
'failed'

(Monomorphemic verb)

(Chan, Lee, and Yip 2022:26)

30. Certain varieties of Mandarin also have a postverbal 'again'-type element, *-hui* 'again, (lit.) return' (Nick Huang p.c.). Like Cantonese *-gwo*, it does not allow for wide-scope reading across nonfinite clauses, as in (i). Curiously, it also patterns with *-gwo* in preceding an outer aspectual suffix such as perfective *-le*, as in (ii).

(i) (Context: Zhangsan always wanted to listen to this song but he never got the time to do so.)

#Jintian ta xiang [ting-**hui** zhe shou ge].
today 3SG want listen-again this CLF song

#Narrow scope: 'Today, he wants to again listen to this song.'

(Nick Huang p.c.)

*Wide scope: 'Today, he again wants to listen to this song.'

(ii) a. Zuijin chongxin du-**hui-le** guanyu meixue taolun de shu.
recently again read-again-PFV related aesthetics discussion DE book
'Recently, [I] re-read a book on aesthetics.'

(Nick Huang p.c., Blog, 2018)

b. Zuijin ting-**hui-le** yi shou hen langman de Yingwen gequ.
recently listen-again-PFV one CLF very romantic DE English song
'Recently, [I] heard a very romantic English song again.'

(Nick Huang p.c., Facebook, 2015-10-6)

31. This template is simplified and does not include RVCs, which precede PCs, and a universal quantificational suffix *-sai*, which may follow aspectual suffixes (S.-W. Tang 2003; Yip 2020, 2024). The complete template is given below. See the Appendix for more discussion.

(i) VERBAL ROOT < RVCs < {PC, -gwo} < {Asp-suffix, -faan} < -sai

5 ‘Again’-lowering under the split aspect approach

In this section, we show how ‘again’-lowering in Cantonese can be derived using the same ingredients we have adopted to account for Mandarin ‘again’-skipping, with a crucial additional ingredient, namely, the split aspect approach (Section 5.1). We will see how splitting aspect into an outer aspectual projection ($\text{AspP}_{\text{outer}}$) and an inner aspect aspectual projection ($\text{AspP}_{\text{inner}}$) in the syntax captures the scopal differences between *-faan* and *-gwo* (Section 5.2).

5.1 Splitting aspect

It has been argued by a number of authors that the clausal spine has more than one aspectual projections in Chinese (Gu 1993, 1995; Tsai 2008; Huang, Li, and Li 2009; Sybesma 2017; Lu, Lipták, and Sybesma 2019; Yip 2020, 2024; Lee and Pan 2024; S.-W. Tang 2022) and in other languages (MacDonald 2008; Travis 2010, *i.a.*). As a general dichotomy, situation aspect is often placed within vP as *inner aspect* and viewpoint aspect above vP as *outer aspect*.³² We dub it as *the split aspect approach*.

The outer aspect is associated with preverbal aspectual markers (e.g., progressive (*zheng*)*zai*) and some aspectual suffixes (e.g., experiential *-guo*, perfective *-le*, and imperfective *-zhe*) (Smith 1991, 1994; Huang, Li, and Li 2009:101-105; Soh 2014), whereas the inner aspect is associated with some other aspectual suffixes (e.g., continuative *-zhe*, cf. Section 6 and Tsai 2008; see also Sun and Cheung 2022 for telic *-le*) and phase complements (Sybesma 2017; Tsai 2008).³³ The approach is summarized in (83).

(83) The split aspect approach to Chinese languages

- a. $[\text{TP} \dots [\text{AspP}_{\text{outer}} \text{ Asp}_{\text{outer}}] [\text{vP} \dots [\text{AspP}_{\text{inner}} \text{ Asp}_{\text{inner}}] [\text{VP} \dots$
- b. Elements associated with $\text{Asp}_{\text{outer}}$:
Mandarin: (*zheng*)*zai*_{PROG}, *you* ‘have’; *-guo*_{EXP}, *-le*_{PFV}, *-zhe*_{IPFV} etc.
Cantonese: *jau* ‘have’; *-gwo*_{EXP}, *-zo*_{PFV}, *-gan*_{PROG}, etc.
- c. Elements associated with $\text{Asp}_{\text{inner}}$:
Mandarin: phase markers *-le*_{telic}, *-zhe*_{CONT}, PCs like *-diao*, *-zhao*, etc.
Cantonese: *-zyu*_{CONT}, PCs like *-jyun*, *-hou*, *-zoek*, etc.

We propose that Cantonese postverbal ‘again’ has a similar split: *-faan* is associated with $\text{Asp}_{\text{outer}}$ and *-gwo* is associated with $\text{Asp}_{\text{inner}}$. The evidence comes from suffix ordering: *-faan* occupies an outer slot, competing with outer aspectual suffixes, whereas *-gwo* occupies an inner slot, competing

32. There have been attempts to further split both aspects into more fine-grained projections (see, for example, Sybesma 2017 for inner aspect and Gu 1995 for outer aspect). For the purposes of this paper, it suffices to only posit two aspectual projections, $\text{Asp}_{\text{outer}}$ and $\text{Asp}_{\text{inner}}$.

33. Perfective *-le*, in the work by Tsai (2008) and Sybesma (2017) (dubbed as “realization”), is analyzed as an inner aspect lower than *-guo*. However, Gu (1995) argues that the Asp head associated with *-le* should be higher than *-guo* and have a wider scope, since *-le* must follow *-guo*, as in (i) (See also Yip 2020 for additional evidence from Yangchun Yue). We thus associate *-le* with $\text{Asp}_{\text{outer}}$.

(i) Ta yijing {kan-**guo-le**/ *kan-**le-guo**} nei-ben shu le.
3SG already read-EXP-PFV read-PFV-EXP that-CLF book PRF
‘He has already read that book.’

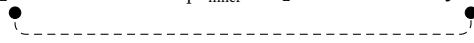
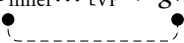
(Gu 1995:52)

with PCs. According to the Mirror Principle (Baker 1985), the suffix order mirrors the hierarchical structure that feeds into LF scope:

- (84) a. VERBAL ROOT < {PC, -gwo} < {Asp-suffix, -faan} (suffix order)
 b. [Asp-suffix/-faan ... [PC/-gwo ... [VERBAL ROOT ... (LF scope)

Following the lexicalist hypothesis (Gu 1995; Huang, Li, and Li 2009; S.-W. Tang 2010, 2015), verbal suffixes are base-generated in V^0 with the stem but associate with corresponding functional projections via agreement for interpretation at LF. Accordingly, *-faan* and *-gwo* are base-generated in the νP layer as part of V^0 . *-Faan*, just like experiential suffixes, agrees with the outer aspect head outside νP . *-Gwo*, in contrast, agrees with the inner aspect head inside νP .

(85) Postverbal ‘again’ in Cantonese: agreement with Asp

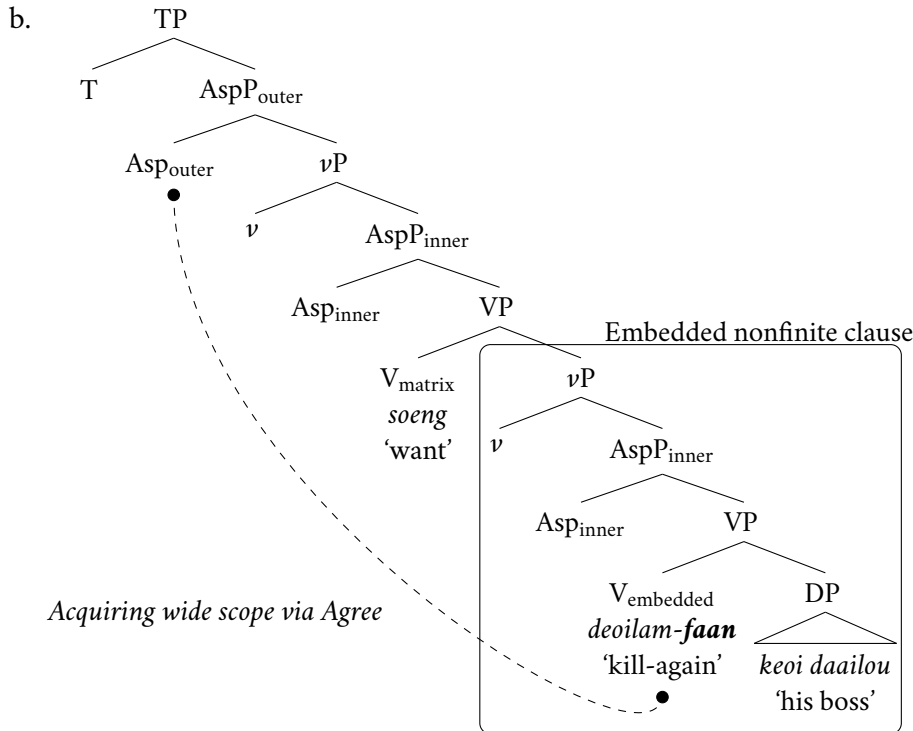
- a. ... [_{Asp_{outer}} Asp_{outer}... [_{νP}... [_{Asp_{inner}} Asp_{inner}... [_{VP} V-*faan*...

 b. ... [_{Asp_{outer}} Asp_{outer}... [_{νP}... [_{Asp_{inner}} Asp_{inner}... [_{VP} V-*gwo*...


5.2 ‘Again’-lowering as outer aspect agreement

With the ingredients in place, we can now derive *-faan* lowering cases such as the one in (86a) (reproduced from (67a)), when the embedded *-faan* takes wide scope. First, the matrix verb *soeng* ‘want’ takes a νP -sized nonfinite clause (i.e., restructuring clauses). Second, the verbal complex *V-faan* needs to agree with Asp_{outer} . Since the embedded clause is only νP and does not contain Asp_{outer} , *V-faan* agrees with the matrix Asp_{outer} and is interpreted there, which takes scope over the matrix VP headed by ‘want’. The structure is represented in (86b).

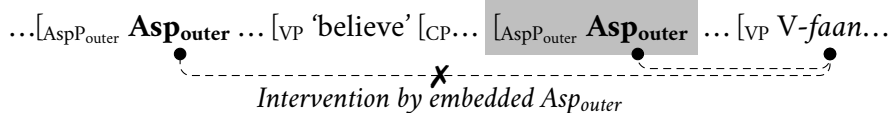
(86) Postverbal *-faan* ‘again’ taking wide scope through agreement

- a. Aaming *soeng* [deoilam-**faan** keoi daailou]. (again>want>kill)
 Ming want kill-again 3sg boss
 Wide scope: ‘Ming again wants to kill his boss.’



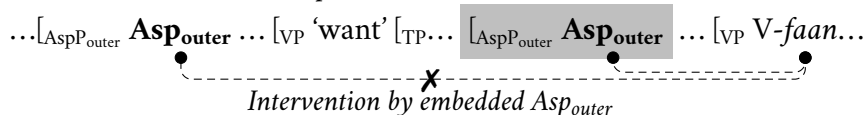
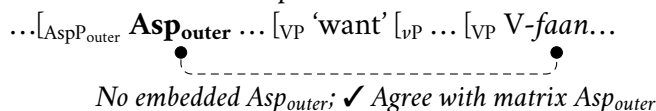
The explanation of why *-faan* lowering cannot occur across a finite clause boundary (e.g., over matrix verbs like *seon* 'believe') is very similar to the ones for 'again' skipping and aspect lowering. When the embedded clause is a CP, there is also an embedded Asp_{outer}. *-Faan* therefore agrees with the closest Asp_{outer} and is interpreted in the embedded clause, giving rise to the narrow scope. That is, the embedded Asp_{outer} intervenes between the matrix Asp_{outer} and *-faan*.

(87) Failure of agreement of *-faan* across finite CP boundaries



On the other hand, *-faan* generally allows for a narrow scope reading in nonfinite clauses, unlike aspectual suffixes when embedded under verbs like 'want'/'urge' (but see Section 3.4). We suggest that in those cases, 'want' takes a TP which contains AspP_{outer}. Importantly, the aspectual requirement imposed on the embedded clause is compatible with *-faan*'s semantics (i.e., the 'again'-presupposition). *-Faan* does not require [+D] at Asp_{outer}, as evidenced by its compatibility with stative verbs like *jau* 'have' (see (73) above).³⁴ Hence, *-faan* may agree with the embedded Asp_{outer} to give a narrow scope reading. Indeed, *-faan* must agree with the embedded Asp_{outer}, since it is the closest Asp head. The wide scope reading can only be obtained when the embedded clause is small enough to *exclude* Asp_{outer}, i.e., a vP. In other words, the so-called scopal ambiguity of *-faan* is a result of different sizes of the nonfinite clauses, as schematized in (88).

34. Other stative verbs *-faan* may attach to include *hai* 'be at (somewhere)', *dak* 'only have', *dangjyu* 'equal', *ci* 'resemble', etc., which are all incompatible with perfective *-zo*. That said, *-faan* cannot attach to modals and some other stative verbs like 'want' (see (69) above) for reasons unknown to us.

(88) Scopal ambiguity of -faana. *Embedded TP: narrow scope*b. *Embedded vP: wide scope*

We thus predict that when the nonfinite clauses contain materials indicating a TP size, *-faan* can only take narrow scope. This prediction is borne out in the examples below where the contexts favor a wide scope reading. With the semicomplementizer *waa* (see Yeung 2006; J. Huang 2021) in (89), adverb *dou* ‘also’ in (90), and internal *lin* ‘even’ focus fronting in (91), *-faan*’s scope is restricted to the embedded verb and results in infelicity. No wide scope readings over the matrix verb ‘urge’ are available. The patterns parallel what we have seen for aspect lowering in Section 3.1 and preverbal ‘again’-skipping in Section 3.3.

(89) -Faan cannot take wide scope with semicomplementizer *waa*

[Context: I used to urge Ming to apply for PhD. Yet, he kept ignoring me and even became mad at me, so I just gave up. Today, our teacher and I see that the government has additional funding for PhD studies, ...]

Ngo hyun Aaming [waa bou-**faan** PhD].

1SG urge Ming COMP apply-again PhD

Narrow scope: ‘I urge Ming to re-apply for PhD.’

*Wide scope: ‘I again urge Ming to re-apply for PhD.’

(90) -Faan cannot take wide scope with adverb *dou* ‘also’

[Context: Same as (89), except that Fan already applied for PhD today.]

Ngo hyun Aaming [dou bou-**faan** PhD].

1SG urge Ming also apply-again PhD

Narrow scope: ‘I urge Ming to also re-apply for PhD.’

*Wide scope: ‘I again urge Ming to also apply for PhD.’

(91) -Faan cannot take wide scope with internal *lin* ‘even’ focus fronting

[Context: Same as (89), except that what I urged Ming to apply included master studies, and that there is also funding for master studies.]

Ngo hyun Aaming [lin master dou bou-**faan**].

1SG urge Ming even master DOU apply-again

Narrow scope: ‘I urge Ming to re-apply even for master studies.’

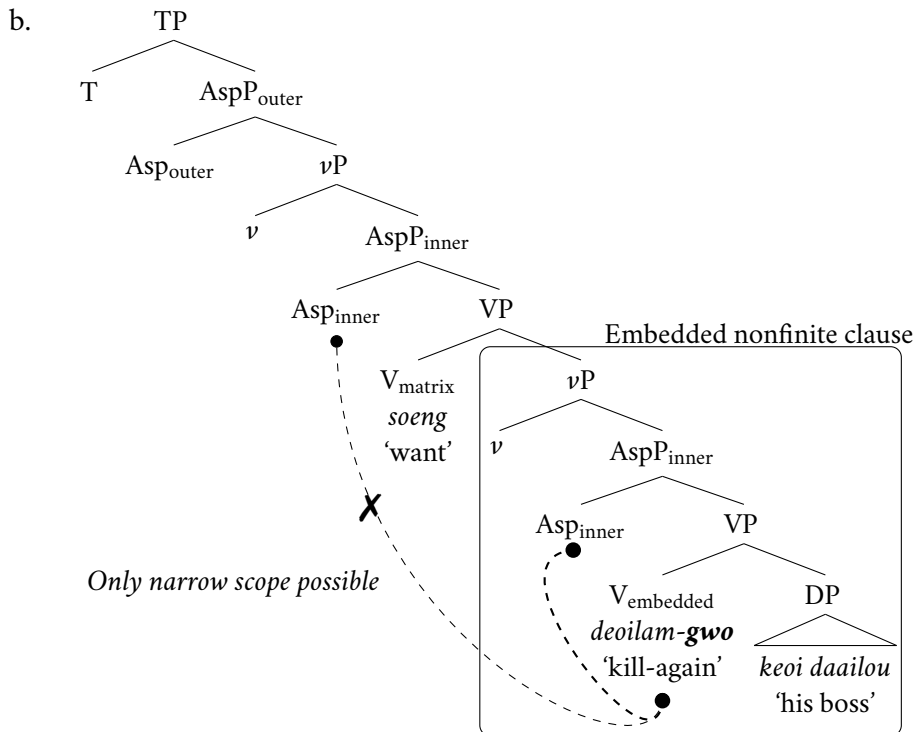
*Wide scope: ‘I again urge Ming to apply even for master studies.’

We have seen that *-faan*’s scope is regulated by whether Asp_{P_{outer}} is embedded. Another postverbal ‘again’-element, *-gwo*, lacks a wide scope reading altogether when embedded (i.e., *-gwo* lowering is impossible). Unlike *-faan*, *-gwo* agrees with Asp_{P_{inner}}. The absence of wide scope is a natural consequence of the current proposal. To elaborate, the nonfinite clause, even as a vP, always contains

Asp_{inner}. Thus, *-gwo* always agrees with the embedded Asp_{inner} and cannot agree with the matrix one to get wide scope. An illustration is given below for a sample example (92a) (reproduced from (67b)).

(92) Postverbal *-gwo* ‘again’ lacks wide scope

- a. #Aaming soeng [deoilam-**gwo** keoi daailou]. (want>again>kill)
 Ming want kill-again 3SG boss
 Narrow scope only: ‘#Ming wants to again kill his boss.’



Extending this split aspect approach back to Mandarin preverbal ‘again’ skipping, we can now identify the AspP that *you* moves to as AspP_{outer} above vP. A question arises as to whether *zai* also associates with Asp_{inner} within vP, or stays at the lowest VP. We believe that the former is the case. Witness (93), where *zai* takes wide scope over the PC, achievement marker *diao*. The reading is that “I” would again achieve the selling of Minecraft, but not that “I” would achieve the re-selling of Minecraft.

- (93) (Context: Markus Persson, the founder of Minecraft, is sharing his voidness after selling Minecraft away to Microsoft.)

... Wo hai shi na-ge reng hui **zai** mai-diao Minecraft de hundan eryi.
 1SG still COP that-CL still will again sell-PC Minecraft DE jerk only
 ‘...I’m still that jerk who would again sell Minecraft away.’ (again>achievement)
 (News, 2015-8-31)

Therefore, we obtain the following associated (moved) positions of *you* (AspP_{outer}) and *zai* (AspP_{inner}) in (94). This parallels Cantonese where *-faan* agrees with Asp_{outer} and *-gwo* agrees with Asp_{inner}.

- (94) ... [AspP_{outer} (**you**) [Asp_{outer}... [vP... [AspP_{inner} (**zai**) [Asp_{inner}... [VP V...

The reason why *zai* does not allow for ‘again’ skipping now follows directly from intervention by AspP_{inner} in vP which we have proposed for *-gwo*: when *zai* is embedded in a vP/restructuring clause,

the embedded $\text{AspP}_{\text{inner}}$ is always the closest landing site as compared to the matrix one.

We close this section by pointing out that the account of the asymmetry between *you/-faan* and *zai/-gwo* relies on the fact that nonfinite clauses *contain* inner aspect, such that there is always intervention to *zai*'s movement to matrix $\text{AspP}_{\text{inner}}$ and *-gwo*'s agreement with matrix $\text{Asp}_{\text{inner}}$. We argue that this case indeed provides important evidence that there is a *minimal size* of nonfinite clauses: they must contain the inner aspect and at least be νP . As will be discussed in the next section, this offers an explanation of why aspect lowering does not apply to all aspectual suffixes as well as phase complements, an observation that has largely gone unnoticed.

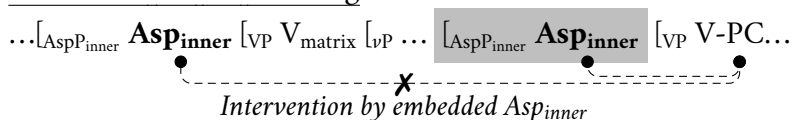
6 The minimal size of nonfinite clauses

We have seen how a smaller size of nonfinite clauses, namely νP , is supported by the presence of *-faan* lowering. There is however little discussion on the *minimal size* of nonfinite complement clauses. While it is usually assumed to be νP (as opposed to VP) (Grano 2012:§5, Grano 2014, Grano 2015:§6; N. Huang 2018; C.-T. J. Huang 2022), there has been, as far as we know, no evidence offered for this claim. We argue that the *absence* of *-gwo* lowering supports that νP is the *minimal size* of nonfinite complement clauses. The clauses must at least contain inner aspect; otherwise, one would expect *-gwo* to agree with matrix $\text{Asp}_{\text{inner}}$ for wide scope. Thus, we obtain the fined-grained typology of complement clauses in (95).

- (95) Complement clause sizes, final version (updated from (38))
- a. $\text{V} [\text{CP} \dots [\text{TP} \dots [\text{AspP}_{\text{outer}} \dots [\nu\text{P} \dots [\text{AspP}_{\text{inner}} \dots [\text{VP} \dots]]]]]]]]$ (Type I, finite)
 - b. $\text{V} [\text{TP} \dots [\text{AspP}_{\text{outer}} \dots [\nu\text{P} \dots [\text{AspP}_{\text{inner}} \dots [\text{VP} \dots]]]]]]$ (Type II, nonfinite)
 - c. $\text{V} [\nu\text{P} \dots [\text{AspP}_{\text{inner}} \dots [\text{VP} \dots]]]]$ (Type III, nonfinite)
 - d. $*\text{V} [\nu\text{P} \dots]$ (Unattested)

Further evidence comes from other inner aspectual elements like phase complements. Since PCs are also associated with $\text{Asp}_{\text{inner}}$, we predict that they cannot take wide scope when embedded (i.e., PC lowering should be impossible), if nonfinite clauses must at least contain $\text{AspP}_{\text{inner}}$, as shown in (96).

- (96) Prediction: No PC lowering



This prediction is borne out. As shown in (97), the achievement markers *-diao* and *-hou* attach to the embedded verb and must be interpreted there. The matrix verbs do *not* obtain the same achievement reading — there lacks a reading where the urging/forcing events have been achieved. The matrix verbs may even take an outer aspect incompatible with achievement, such as progressive and/or imperfective aspects (indicated by *zai...-zhe* and *haidou...-gan*).

- (97) Phase complements cannot take wide scope when embedded

- a. Wo (*zai*) quan(*-zhe*) ta chi-**diao** zhe-wan fan. [Mandarin]
 1SG PROG urge-IPFV 3SG eat-PC this-CLF rice
 'I urge/am urging him to eat up this bowl of rice.'
 NOT: 'I finished urging him to eat this bowl of rice.'

- b. Ngo (haidou) bik(-gan) keoi so-**hou** ni dou mun [Cantonese]
 1SG PROG force-PROG 3SG lock-PC this CLF door
 ‘I force/am forcing him to lock the door properly.’
 NOT: ‘I finished forcing him to lock the door.’

The incompatibility of PCs *-diao* and *-hou* with progressive and/or imperfective aspects is supported by (98) without embedding.

- (98) a. *Ta zai **chi-diao-zhe** zhe-wan fan. [Mandarin]
 3SG PROG eat-PC-IPFV this-CLF rice
 Int.: ‘S/he is eating up this bowl of rice.’
- b. *Ngo haidou **so-hou-gan** ni dou mun [Cantonese]
 1SG PROG lock-PC-PROG this CLF door
 Int.: ‘I’m locking the door properly.’

This explanation extends to the verbal suffix *-zhe* in Mandarin. To begin with, *-zhe* has two uses. The first one serves as an imperfective aspect, which may be durative (stative) or progressive (dynamic) (Smith 1991, 1994; Soh 2014). It is compatible with the preverbal aspectual marker *zai* and sentence-final particle *ne*, both expressing progressive aspect, as in (99a). It is thus reasonable to treat imperfective *-zhe* as associating with outer aspect. The second use is dubbed as a phase marker by Tsai (2008), which only attaches to verbs with a sense of “attachment”, such as verbs of posture like *zuo* ‘sit’ and verbs of carrying like *bao* ‘hold’, among others (see also Li and Thompson 1981; Yuan 1993), as in (99b). This use has been analyzed as a type of inner aspect (Tsai 2008:683; Grano 2014:23n.8). For expository purposes, we label it as a continuative aspect (i.e., indicating that a state is continuing).³⁵

(99) The outer-inner split of Mandarin aspectual suffix *-zhe*

- a. [Zhangsan zai da-**zhe** Lisi] ne. (imperfective, Asp_{outer})
 Zhangsan PROG hit-IPFV Lisi SFP
 ‘Zhangsan is hitting Lisi.’ (Li and Thompson 1981:219)
- b. Ta zai fangzi-li **zuo-zhe**. (continuative, Asp_{inner})
 3SG at house-inside sit-CONT
 ‘S/he is sitting in the house.’ (Li and Thompson 1981:219)

Tsai (2008), citing Yuan (1993), points out that only inner aspectual *-zhe_{CONT}* can be used in imperatives, whereas outer aspectual *-zhe_{IPFV}* cannot, as shown in (100).

- (100) a. *[(Zai) da-**zhe** Lisi] (ne)! (imperfective, Asp_{outer})
 PROG hit-IPFV Lisi SFP
 Int.: ‘Hit Lisi!’/‘To be hitting Lisi!’

35. The aspectual contribution by continuative *-zhe* is quite similar to PC *-zhu*, as in *zhan-zhe* ‘standing’ and *zhan-zhu* ‘standing (still)’, both indicating an ongoing state. However, *-zhe* is a verbal suffix whereas *-zhu* is a verbal complement, as evidenced by the contrast in *-de/bu-* ‘able/not’ infixation:

(i) **zhan-de/bu-zhe* vs. ^{OK}*zhan-de/bu-zhu*
 stand-able/not-CONT stand-able/not-PC
 Int.: ‘to be (in)able of standing still’

- b. Zai fangzi-li zuo-**zhe**! (continuative, Asp_{inner})
 at house-inside sit-CONT
 ‘Sit in the house!’

Other outer and inner aspectual elements show similar contrasts. Experiential aspect *-guo* is banned in imperatives, whereas achievement marker PC *-diao* is not, as in (101).³⁶ The pattern in (100) thus supports that imperfective *-zhe* is an outer aspect and continuative *-zhe* is an inner aspect.

- (101) a. *Chi-**guo** zhe-wan fan! (experiential, Asp_{outer})
 eat-EXP this-CLF rice
 Int.: ‘To have an experience of eating this bowl of rice!’
- b. Chi-**diao** zhe-wan fan! (achievement PC, Asp_{inner})
 eat-PC this-CLF rice
 ‘Eat up this bowl of rice!’

With the outer-inner split of *-zhe* in place, we can now test aspect lowering. The prediction is that only the outer *-zhe*_{IPFV} can take wide scope when embedded under nonfinite clauses, but not the inner *-zhe*_{CONT}. This prediction is borne out. Grano (2014) observes a case of *-zhe*_{IPFV} lowering in (102a), where *-zhe*_{IPFV} takes scope over the matrix verb *wei* ‘feed’. We further observe that *-zhe*_{IPFV} does not need to be interpreted locally, as evidenced by the felicitous continuation in (102b) that the eating event does not occur. This is thus a genuine case of aspect lowering.

- (102) Outer aspectual *-zhe*_{IPFV} may take wide scope when embedded
- a. Wo (zai) wei ta [chi-**zhe** fan] ne.
 1SG PROG feed 3SG eat-IPFV fan SFP
 ‘I am feeding him/her a meal.’ (Grano 2014:23)
- b. ... Ke ta nao piqi, yi-kou dou mei chi.
 but 3SG have temper one-bite also NEG.PFV eat
 ‘... but s/he is having a temper and doesn’t even eat one bite of it.’

We provide one more example of *-zhe*_{IPFV} lowering in (103). Likewise, the embedded *-zhe*_{IPFV} takes matrix scope over ‘force’ rather than embedded scope over ‘sing’.

- (103) [Context: Ming never sings in Karaoke. You really want to hear his voice and are forcing him to sing. However, Lisi keeps distracting you and you still haven’t got Ming singing. You say to Lisi:]
 Wo (zheng) bi ta [chang-**zhe** ge] ne! Ni bie daoluan!
 1SG PROG force 3SG sing-IPFV song SFP 2SG NEG casue.trouble
 ‘I’m now forcing him to sing! Don’t cause trouble!’

On the other hand, the inner aspectual *-zhe*_{CONT} cannot acquire wide scope across nonfinite clauses. Example (104a) lacks a reading where the forcing event/state is continuative. Furthermore, the matrix verb may take the outer aspect experiential *-guo*, which is incompatible with *-zhe*_{CONT} as in (104b), showing that *-zhe*_{CONT} in (104a) can only be interpreted in the embedded clause.³⁷

36. Note that the verbal suffix *-le* can be used in imperatives, but it is argued to be a telic use associated with Asp_{inner}, rather than a perfective use (Sun and Cheung 2022).

37. Grano (2014) cites (i) as a case of *-zhe*_{CONT} failing to take wide scope, since the matrix clause has perfective negation

(104) Inner aspectual $-zhe_{\text{CONT}}$ cannot take wide scope when embedded

- a. Wo bi(-guo) ta [zai fangzi-li zuo-**zhe**].
 1SG force-EXP 3SG at house-inside sit-CONT
 ‘I force/have forced him/her to sit still in the house.’
 NOT: ‘I continue forcing him/her to sit in the house.’
- b. *Ta zai fangzi-li zuo-**zhe-guo**.
 3SG at house-inside sit-CONT-EXP
 Int.: ‘S/he have been sitting still in the house.’

The lack of zhe_{CONT} -lowering is further supported by (105a). The matrix verb takes the inner aspect completive $-wan$ that is incompatible with $-zhe_{\text{CONT}}$ independently as in (105b). Thus, $-zhe_{\text{CONT}}$ in (105a) lacks matrix scope.

- (105) a. Wo quan-wan Zhangsan [zai fangzi-li zuo-**zhe**], jiu quan Lisi bie zhan-zhe.
 1SG urge-PC Zhangsan at house-inside sit-CONT, then urge Lisi NEG.PROH stand-CONT
 ‘After I finished urging Zhangsan to sit still in the house, I urge Lisi not to stand still.’
- b. *Zhangsan zai fangzi-li zuo-**zhe-wan**.
 Zhangsan at house-inside sit-CONT-PC
 Int.: ‘Zhangsan finished sitting still in the house.’

The asymmetries in lowering between outer aspectual $-zhe_{\text{IPFV}}$ and inner aspectual zhe_{CONT} further support that nonfinite clauses are at least as large as νP . A restructuring clause does not contain $\text{Asp}_{\text{outer}}$ and thus allows $-zhe_{\text{IPFV}}$ to agree with matrix $\text{Asp}_{\text{outer}}$, but it contains $\text{Asp}_{\text{inner}}$ that triggers intervention to block $-zhe_{\text{CONT}}$ from matrix agreement, as in (106).

(106) Asymmetries in aspect lowering between $-zhe_{\text{IPFV}}$ and $-zhe_{\text{CONT}}$

- a. $[\text{Asp}_{\text{outer}} \text{Asp}_{\text{outer}} [\nu\text{P} \dots [\text{Asp}_{\text{inner}} \dots [\text{VP} \text{V} [\nu\text{P} \dots [\text{Asp}_{\text{inner}} \dots [\text{VP} \text{V} -zhe_{\text{IPFV}} \dots]]]]]]]$
 ✓ Agreement, no intervention
- b. $[\text{Asp}_{\text{inner}} \text{Asp}_{\text{inner}} [\nu\text{P} \text{V} [\nu\text{P} \dots [\text{Asp}_{\text{inner}} \text{Asp}_{\text{inner}} [\text{VP} \text{V} -zhe_{\text{CONT}} \dots]]]]]$
 X
 Intervention by embedded $\text{Asp}_{\text{inner}}$

meiyou ‘haven’t’. However, it is far from clear that this case shows the failure of lowering, since $-zhe_{\text{CONT}}$ is compatible with *meiyou*, as in (ii).

- (i) Wo meiyou jiao ta [kao-**zhe** qiang].
 1SG NEG.PFV ask 3SG lean-CONT wall
 ‘I did not ask him to lean against the wall.’

(Y. Huang 1994:29, cited by Grano 2014:23n.8)

- (ii) Wo meiyou kao-**zhe** qiang.
 1SG NEG.PFV lean-CONT wall
 ‘I did not lean against the wall.’

7 Conclusion

To conclude, we have argued for a size-based view on finiteness in Chinese languages under the split aspect approach. Evidence is drawn from the scopal behavior of various ‘again’ and aspectual elements in Mandarin and Cantonese, most of which is first observed in this paper.

There are two key findings. First, preverbal *you* ‘again’ in Mandarin, postverbal *-faan* ‘again’ in Cantonese, and aspectual suffixes in both languages, which are all associated with outer aspect, may take exceptional scope that mismatches with the pronounced position: embedded scope for matrix *you* (“skipping”), matrix scope for embedded *-faan* and suffixes (“lowering”). Moreover, elements associated with inner aspect do not allow skipping or lowering across nonfinite clause boundaries, such as Cantonese *-gwo* ‘again’ and phase complements, as well as Mandarin *zai* ‘again’. Second, *you* skipping and *-faan*/aspect lowering are sensitive to a certain size of nonfinite clause, namely, ν P (restructuring clauses). A TP-sized nonfinite clause and a CP-sized finite clause render skipping and lowering impossible. The empirical patterns are summarized in Table 5.

	Size	Asp lowering <i>-faan</i> lowering	PC lowering <i>-gwo</i> lowering	<i>you</i> skipping	<i>zai</i> skipping
Associated with		Asp _{outer}	Asp _{inner}	Spec,AspP _{outer}	Spec,AspP _{inner}
Under ‘believe/say’	CP	✗	✗	✗	✗
Semi-COMP <i>shuo/waa</i>	TP	✗	✗	✗	✗
Adv <i>ye/dou</i> ‘also’	TP	✗	✗	✗	✗
Internal focus	TP	✗	✗	✗	✗
None of the above	ν P	✓	✗	✓	✗

Table 5: Different nonfinite clause sizes and the availability of aspectual/‘again’ exceptional scope phenomena, final

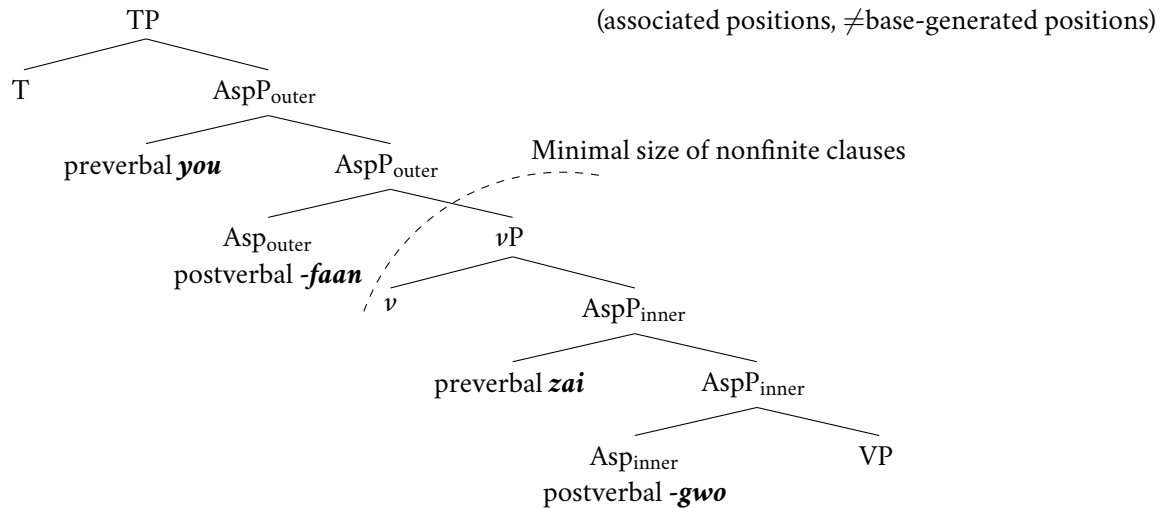
We have proposed an account that draws on (a) variable sizes of nonfinite clauses with a lower bound at ν P (N. Huang 2018; C.-T. J. Huang 2022; cf. Wurmbrand and Lohninger 2023); (b) split aspect projections with AspP_{outer} (above ν P) and AspP_{inner} (below ν P) (e.g., Tsai 2008; Sybesma 2017); and (c) association of ‘again’ and aspectual elements with relevant Asp projections, analyzed as movement for preverbal *you* and agreement for other postverbal elements (building on Liu 2021, 2024 and Grano 2014; N. Huang 2018, respectively). The exceptional scope is a by-product of this association: reconstruction of *you* generates embedded scope, and agreement of *-faan*/aspectual suffixes yields matrix scope. Importantly, such association is not unrestricted: it is disrupted when the embedded clause is larger than ν P (e.g., TP), which we modeled as a result of (defective) intervention by embedded Asp_{outer}.

The empirical findings and proposed account have several important consequences on (a) finiteness and complementation and (b) the cartography of ‘again’ and aspectual elements. First, finiteness distinction is structurally encoded in Chinese languages, but it is not a simple dichotomy with $[\pm\text{finite}]$ or $[\pm\text{tense}]$. Rather, it is a *gradient* notion manifested structurally as a hierarchy of complement clause sizes, as evidenced by the blocking effects of nonfinite TP to ‘again’ skipping and ‘again’/aspect lowering. This perspective not only aligns perfectly with the reduced clause size analysis of restructuring and its related phenomena but also substantially supports Wurmbrand and Lohninger (2023)’s view on complementation (originally circulated in 2020) that is recently adopted by He (2024) and C.-T. J. Huang (2022) to Chinese.

Moreover, there is a *minimal* size of nonfinite clauses, namely, vP. While this assumption has been adopted widely (Grano 2014; N. Huang 2018; C.-T. J. Huang 2022), this study is the first to provide substantial evidence from the systematic absence of skipping/lowering phenomena of elements associated with Asp_{inner}.

Second, there is a fined-grained structural distinction of ‘again’ and aspectual elements on the clausal spine, the most crucial one being the relative position with respect to vP (e.g., Tsai 2008; Sybesma 2017; Lu, Lipták, and Sybesma 2019; see Lin and Liu (2009) for ‘again’), as represented in (107).

(107) The cartography of ‘again’ elements in Chinese languages



The distinction plays a significant role in determining the availability of skipping/lowering: only elements associating above vP allows exceptional scope across nonfinite clauses. On a deeper level, the dichotomy reflects two of three domains in cartographic syntax (Cinque 1999; Rizzi 1997) — the inflectional domain and lexical domain (besides the complementizer domain), which has gained strong support from various empirical phenomena in Chinese (e.g., modals, light verbs, applicatives; see Tsai 2015). It also offers a potential explanation for why nonfinite clauses cannot be smaller than vP: vP is the upper bound of the lexical domain and the lower bound of the inflectional domain. It is hoped that this perspective may further our understanding of both clausal architecture and finiteness in Chinese languages and beyond.

References

- Baker, Mark. 1985. “The Mirror Principle and morphosyntactic explanation.” *Linguistic Inquiry* 16 (3): 373–415.
- Baker, Mark. 2003. *Lexical categories: Verbs, nouns and adjectives*. Cambridge University Press.
- Burzio, Luigi. 1981. “Intransitive verbs and Italian auxiliaries.” PhD diss., Massachusetts Institute of Technology.
- Cardinaletti, Anna. 2003. “On the Italian repetitive prefix *ri-*: Incorporation vs. cliticization.” *University of Venice Working Papers in Linguistics* 13:7–29.
- Chan, Sheila Shu-Laam, Tommy Tsz-Ming Lee, and Ka-Fai Yip. 2022. “Discontinuous predicates as partial deletion in Cantonese.” *University of Pennsylvania Working Papers in Linguistics (PWPL)* 28 (1): 26–36.
- Chang, Song Hing. 1996. “Xianggang Yueyu de ti [Aspects in Hong Kong Cantonese].” In *Dongci de ti [Aspects of verbs]*, edited by Song Hing Chang, 143–160. Hong Kong: Xianggang Zhongwen Daxue, Wu Duotai Zhongguo Yuwen Yanjiu Zhongxin [Chinese University of Hong Kong, T. T. Ng Chinese Language Research Centre].

- Chao, Yuen-Ren. 1965. *A grammar of spoken Chinese*. Berkeley, CA: University of California Press.
- Chen, Fulang. 2023. "Obscured universality in Mandarin." Ph.D. dissertation, Massachusetts Institute of Technology.
- Chen, Fulang. 2025. "Generalized composite probing in Mandarin." In *Proceedings of 42nd West Coast Conference on Formal Linguistics*. Somerville, MA: Cascadilla Proceedings Project (To appear).
- Chen, Fulang, and Ka-Fai Yip. To appear. "Facilitator effects in Mandarin topicalization: Evidence for a crossing-based view of antilocality." To appear, *North East Linguistic Society (NELS)* 55.
- Chen, Xiaojin, and Lin Li. 2006. "Guangzhouhua de dongtai zhuci "guo" [The particle gwo3 in Cantonese]." *Journal of Jinan University (Philosophy and Social Sciences)*, no. 4, 118–122.
- Cheng, Gong, Zhao-Hui Yi, and Jian-Guo Xiong. 2016. "Raising or Lowering?—A Case Study of Alethic ACQ in Chinese and Southeast Asian Languages." *Studies in Chinese Linguistics* 37 (2): 75–108.
- Cheung, Hung-nin Samuel. 1972. *Xianggang Yueyu yufa de yanjiu [Cantonese as spoken in Hong Kong]*. Hong Kong: The Chinese University of Hong Kong.
- Cheung, Hung-nin Samuel. 2007. *Xianggang Yueyu yufa de yanjiu [Cantonese as spoken in Hong Kong] (revised edition)*. Hong Kong: The Chinese University Press.
- Chomsky, Noam. 1970. "Remarks on nominalization." In *Readings in English transformational grammar*, edited by Roderick Jacobs and Peter Rosenbaum, 184–221. Waltham, MA: Ginn.
- Chomsky, Noam. 1973. "Conditions on transformations." In *A festschrift for Morris Halle*, edited by Morris Halle, Stephen Anderson, and Paul Kiparsky, 232–286. New York: Holt, Rinehart & Winston.
- Chomsky, Noam. 1981. *Lectures on government and binding*. Dordrecht: Foris.
- Chomsky, Noam. 1993. "A Minimalist Program for linguistic theory." In *The view from building 20: Essays in linguistics in honor of Sylvain Bromberger*, edited by Kenneth Hale and Samuel Jay Keyser, 1–52. Cambridge, MA: MIT Press.
- Chomsky, Noam. 2000. "Minimalist inquiries: The framework." In *Step by step: Essays on minimalist syntax in honor of Howard Lasnik*, edited by Roger Martin, David Michaels, Juan Uriagereka, and Howard Lasnik, 89–156. Cambridge, MA: MIT Press.
- Cinque, Guglielmo. 1999. *Adverbs and functional heads: A cross-linguistic perspective*. New York: Oxford University Press.
- Cinque, Guglielmo. 2004. "'Restructuring' and functional structure." In *Structures and beyond: The cartography of syntactic structures, volume 3*, edited by Adriana Belletti, 132–191. New York: Oxford University Press.
- Cinque, Guglielmo. 2006. *Restructuring and functional heads: The cartography of syntactic structures, volume 4*. Oxford: Oxford University Press.
- Erlwine, Michael Yoshitaka. 2017. "Low sentence-final particles in Mandarin Chinese and the Final-over-Final Constraint." *Journal of East Asian Linguistics* 26 (1): 37–75.
- Fong, Sau Ying. 2007. "Xianggang Yueyu faan I de yongfa [The use of faan I in Hong Kong Cantonese]." In *Proceedings of the 11th International Conference on Yue Dialects*, edited by Yi Lin and Jin Yu, 283–291. Nanning: Guangxi People Press.
- Givón, Talmy. 1980. "The binding hierarchy and the typology of complements." *Studies in Language* 4 (3): 333–377.
- Grano, Thomas. 2012. "Control and restructuring at the syntax-semantics interface." PhD diss., University of Chicago.
- Grano, Thomas. 2014. "Control without finiteness contrasts: Aspect and complement size in Mandarin Chinese." Ms., Indiana University, Bloomington.
- Grano, Thomas. 2015. *Control and restructuring*. Oxford: Oxford University Press.
- Grano, Thomas, and Yiwen Zhang. 2019. "Getting aspectual -guo under control in Mandarin Chinese: An experimental investigation." Ms., Indiana University, Bloomington.
- Gu, Yang. 1993. "Aspect licensing and verb movement in Mandarin Chinese." *CUHK Paper in Linguistics* 4:68–87.
- Gu, Yang. 1995. "Aspect licensing, verb movement and feature checking." *Cahiers de Linguistique Asie Orientale* 24 (1): 49–83.
- He, Yuyin. 2020. "Time in Mandarin: The fingerprints of tense and finiteness." PhD diss., Harvard University.
- He, Yuyin. 2024. "Finiteness in Mandarin clausal complements: The role of ICH and future modals." *Journal of East Asian Linguistics* 33 (2): 259–297.
- Hu, Jianhua, Haihua Pan, and Liejiong Xu. 2001. "Is there a finite vs. nonfinite distinction in Chinese?" *Linguistics* 39 (6): 1117–1148.
- Huang, Cheng-Teh James. 1982. "Logical relations in Chinese and the theory of grammar." PhD diss., Massachusetts Institute of Technology.

- Huang, Cheng-Teh James. 1989. "Pro-drop in Chinese: A generalized control theory." In *The null subject parameter*, edited by Osvaldo Jaeggli and Kenneth Safir, 185–214. Dordrecht: Kluwer.
- Huang, Cheng-Teh James. 1998. *Logical relations in Chinese and the theory of grammar*. New York: Garland.
- Huang, Cheng-Teh James. 2022. "Finiteness, opacity, and Chinese clausal architecture." In *New explorations in Chinese theoretical syntax: Studies in honor of Yen-Hui Audrey Li*, edited by Andrew Simpson, 17–76. Amsterdam: John Benjamins.
- Huang, Cheng-Teh James, Yen-Hui Audrey Li, and Yafei Li. 2009. *The syntax of Chinese*. Cambridge: Cambridge University Press.
- Huang, Jiahui. 2021. "The semi-complementizer *shuō* and non-referential CPs in Mandarin Chinese." *Proceedings of the Linguistic Society of America* 6 (1): 882–895.
- Huang, Nick. 2018. "Control complements in Mandarin Chinese: Implications for restructuring and the Chinese finiteness debate." *Journal of East Asian Linguistics* 27 (4): 347–376.
- Huang, Nick. 2024. "Finiteness in a language without finite morphology: An experimental study of Mandarin Chinese." *Natural Language & Linguistic Theory* 42 (2): 533–556.
- Huang, Yan. 1994. *The syntax and pragmatics of anaphora: A study with special reference to Chinese*. New York: Cambridge University Press.
- Lee, Peppina Po-lun. 2012. *Cantonese Particles and Affixal Quantification*. Dordrecht: Springer.
- Lee, Tommy Tsz-Ming. 2024. *The Unity of Movement: Evidence from verb movement in Cantonese*. Amsterdam and Philadelphia: John Benjamins Publishing.
- Lee, Tommy Tsz-Ming, and Victor Junnan Pan. 2024. "The privileged status of phases: licensing VP movement and ellipsis in Chinese." (Manuscript, CityuHK and CUHK).
- Lee, Tommy Tsz-Ming, and Ka-Fai Yip. 2024. "Partial Deletion on head chains: Discontinuous predicates in Cantonese."
- Li, Charles N., and Sandra A. Thompson. 1981. *Mandarin Chinese: A Functional Reference Grammar*. Berkeley: University of California Press.
- Li, Daoxin. 2024. "Controlling overt subjects in Mandarin." *Journal of East Asian Linguistics* 33 (3): 333–366.
- Li, Yen-Hui Audrey. 1985. "Abstract Case in Chinese." PhD diss., University of Southern California.
- Li, Yen-Hui Audrey. 1990. *Order and constituency in Mandarin Chinese*. Dordrecht: Kluwer.
- Lin, Tzong-Hong Jonah. 2011. "Finiteness of clauses and raising of arguments in Mandarin Chinese." *Syntax* 14 (1): 48–73.
- Lin, Tzong-Hong Jonah. 2015. "Tense in Mandarin Chinese sentences." *Syntax* 18 (3): 320–342.
- Lin, Tzong-Hong Jonah, and Chi-Ming Louis Liu. 2009. "'Again' and 'again': A grammatical analysis of *you* and *zai* in Mandarin Chinese." *Linguistics* 47 (5): 1183–1210.
- Lin, Jo-Wang. 2006. "Time in a language without tense: The case of Chinese." *Journal of Semantics* 23 (1): 1–53.
- Liu, Yuyang. 2021. "'Again' skipping in Mandarin Chinese." BA thesis, University of Massachusetts.
- Liu, Yuyang. 2023. "'Again' separation in Italian." *Proceedings of the Linguistic Society of America (PLSA)* 8.
- Liu, Yuyang. 2024. "'Again' skipping in Mandarin Chinese: A syntactic approach." *West Coast Conference on Formal Linguistics (WCCFL)* 40:213–222.
- Liu, Yuyang, and Ka-Fai Yip. 2023. "High vs. low 'again': Mandarin *you* vs. *zai* and Cantonese *-faan* vs. *-gwo*." *Buckeye East Asian Linguistics (BEAL)* 7:94–104.
- Lu, Man, Anikó Lipták, and Rint Sybesma. 2019. "A structural account of the difference between achievements and accomplishments: Evidence from Changsha Xiang Chinese." *Journal of East Asian Linguistics* 28 (3): 279–306.
- Lü, Shuxiang. 1980. *Xiandai Hanyu babai ci [Eight hundred words in Modern Chinese]*. Beijing: Shangwu Yinshuguan [Commercial Press].
- MacDonald, Jonathan. 2008. *The syntactic nature of inner aspect: A minimalist perspective*. Amsterdam: John Benjamins.
- Matthews, Stephen, and Virginia Yip. 1994. *Cantonese: A Comprehensive Grammar*. London: Routledge.
- Paul, Waltraud. 2014. "Why particles are not particular: Sentence-final particles in Chinese as heads of a split CP." *Studia Linguistica* 68 (1): 77–115.
- Peng, Xiaochuan. 1999. "Guangzhou hua de dongtai zhuci 'faan' [The dynamic particle 'faan' in Cantonese]." *Fangyan [Dialect]* 21 (1): 64–69.
- Peng, Xiaochuan. 2010. *Guangzhouhua zhuci yanjiu [Studies in Cantonese particles]*. Guangzhou: Jinan University Press.
- Rizzi, Luigi. 1976. "Ristrutturazione [Restructuring]." *Rivista di Grammatica Generativa [Research in Generative Grammar]* 1.

- Rizzi, Luigi. 1978. "A restructuring rule in Italian syntax." In *Recent transformational studies in European languages*, edited by Samuel Jay Keyser, 113–158. Cambridge, MA: MIT Press.
- Rizzi, Luigi. 1993. *Issues in Italian syntax*. Dordrecht: Foris.
- Rizzi, Luigi. 1997. "The fine structure of the left periphery." In *Elements of grammar: Handbook in generative syntax*, edited by Liliane Haegeman, 281–337. Dordrecht: Springer.
- Rizzi, Luigi. 2001. "Relativized Minimality Effects." In *The handbook of contemporary syntactic theory*, edited by Mark Baltin and Chris Collins, 89–110. Malden, MA: Blackwell.
- Rouveret, Alain, and Jean-Roger Vergnaud. 1980. "Specifying reference to the subject: French causatives and conditions on representations." *Linguistic Inquiry* 11 (1): 97–202.
- Shen, Li. 2004. "Aspect agreement and light verbs in Chinese: The sources of distributivity." *Journal of East Asian Linguistics* 13 (2): 141–179.
- Shyu, Shu-Ing. 1995. "The syntax of focus and topic in Mandarin Chinese." PhD diss., University of Southern California.
- Sio, Joanna Ut-Seong. 2020. "The dual identity of the post-verbal *can1* in Cantonese: A non-specific resultative particle and a free choice item." *Studies in Chinese Linguistics* 41 (2): 139–159.
- Smith, Carlota S. 1991. *The Parameter of Aspect*. Dordrecht: Kluwer Academic Press.
- Smith, Carlota S. 1994. "Aspectual Viewpoint and Situation Type in Mandarin Chinese." *Journal of East Asian Linguistics* 3 (2): 107–146.
- Soh, Hooi Ling. 2014. "Aspect." In *The Handbook of Chinese Linguistics*, edited by C.-T. James Huang, Yen-hui Audrey Li, and Andrew Simpson, 126–155. Oxford: John Wiley & Sons.
- Stowell, Tim. 1992. "Small clause restructuring." In *Principles and parameters in comparative grammar*, edited by Robert Freidin, 182–218. Cambridge, MA: MIT Press.
- Sun, Yenan, and Lawrence Yam-Leung Cheung. 2022. "Telicizing with inner aspect *le*: Partitivity and the definiteness constraint." Paper presented at GLOW in Asia XIII, CUHK, Hong Kong.
- Sybesma, Rint. 2007. "Whether we Tense-agree overtly or not." *Linguistic Inquiry* 38 (3): 580–587.
- Sybesma, Rint. 2017. "Inner Aspect." In *Encyclopedia of Chinese Language and Linguistics*, Vol. I, edited by Rint Sybesma, Wolfgang Behr, Yueguo Gu, Zev Handel, C.-T. James Huang, and James Myers, 186–193. Leiden: Brill.
- Tang, Sze-Wing. 1998. "Parametrization of features in syntax." PhD diss., University of California, Irvine.
- Tang, Sze-Wing. 2001. "Yueyu zhuci *faan* de yingyong tiaojian [The application conditions of the Cantonese particle *faan*]." *Zhongguo Yuwen Tongxun [Newsletter of Chinese Language]* 60:50–55.
- Tang, Sze-Wing. 2003. "Properties of *ngaang* and the syntax of verbal particles in Cantonese." *Journal of Chinese Linguistics* 31 (2): 245–269.
- Tang, Sze-Wing. 2006. "A parametric approach to the typology of subtopics in Chinese dialects." *Linguistic Sciences* 5 (6): 3–11.
- Tang, Sze-Wing. 2010. *Formal Chinese Syntax*. Shanghai: Shanghai Educational Publishing House.
- Tang, Sze-Wing. 2015. *Yueyu yufa jiangyi [Lectures on Cantonese Grammar]*. Hong Kong: The Commercial Press.
- Tang, Sze-Wing. 2022. "On the syntax of incompleteness: evidence from the converbal construction in Cantonese." In *New Explorations in Chinese Theoretical Syntax. Studies in honor of Yen-Hui Audrey Li*. Edited by Andrew Simpson, 395–427. Amsterdam and Philadelphia: John Benjamins.
- Tang, Ting-Chi. 1989. *Hanyu cifa jufa lunji [Studies on Chinese morphology and syntax]*. Taipei: Taiwan Xuesheng Shuju [Taiwan Student Book].
- Travis, Lisa. 2010. *Inner aspect: The articulation of VP*. Dordrecht: Springer.
- Tsai, Wei-Tien Dylan. 2001. "On subject specificity and theory of syntax-semantics interface." *Journal of East Asian Linguistics* 10 (2): 129–168.
- Tsai, Wei-Tien Dylan. 2008. "Tense anchoring in Chinese." *Lingua* 118 (5): 675–686.
- Tsai, Wei-Tien Dylan. 2015. "A Tale of Two Peripheries." In *The Cartography of Chinese Syntax*, edited by Wei-Tien Dylan Tsai, 1–32. Oxford: Oxford University Press.
- Vendler, Zeno. 1957. "Verbs and times." *The Philosophical Review* 66 (2): 143–160.
- Wen, Changyan. 2020. "Hanyu fangyan de chongxing ti zhuci 'guo' [On the resumption-indicating particle *guo* in Chinese dialects]." *Fangyan [Dialect]* 42 (4): 437–444.
- Wong, Shing-Kit. 2018. "Yueyu ciwei 'ding' de yufa tedian [Linguistic properties of suffix *ding6* in Cantonese]." *Current Research in Chinese Linguistics* 97 (1): 41–56.

- Wurmbrand, Susanne. 1998. “Infinitives.” PhD diss., Massachusetts Institute of Technology.
- Wurmbrand, Susanne. 2001. *Infinitives: Restructuring and clause structure*. Berlin: Mouton de Gruyter.
- Wurmbrand, Susanne, and Magdalena Lohninger. 2023. “An implicational universal in complementation—theoretical insights and empirical progress.” In *Propositional arguments in cross-linguistic research: Theoretical and empirical issues*, edited by Jutta Hartmann and Angelika Wöllstein, 183–229. Tübingen: Narr Francke Attempto.
- Xu, Liejiong. 2003. “Choice between the overt and the covert.” *Transactions of the Philological Society* 101 (1): 81–107.
- Xu, Ting. 2012. “You again: How is its ambiguity derived?” In *Logic, language and meaning: 18th Amsterdam Colloquium, Amsterdam, the Netherlands, December 19–21, 2011, revised selected papers*, edited by Maria Aloni, Vadim Kimmelman, Floris Roelofsen, Galit Sassoon, Katrin Schulz, and Matthijs Westera, 470–479. Berlin: Springer.
- Xu, Ting. 2016. “Almost again: On the semantics and acquisition of decomposition adverbs.” PhD diss., University of Connecticut.
- Xu, Ting, William Snyder, and Stella Christie. 2022. “Mandarin-speaking children’s understanding of *you* ‘again’ with goal-PPs.” In *Proceedings of the 23rd Amsterdam Colloquium*, edited by Marco Degano, Thomas Roberts, Giorgio Sbardolini, and Marieke Schouw, 320–326. Amsterdam: University of Amsterdam, Institute for Logic, Language / Computation.
- Xu, Ting, William Snyder, and Stella Christie. 2024. “You ‘again’: An acquisition study on its restitutive reading with goal-PPs.” *Glossa* 9.
- Yan, Liming. 2009. “Guangzhouhua biaoshi xiuzheng de zhuci “guo” [The amendment auxiliary word *guo* in Cantonese].” *Fangyan [Dialect]*, no. 2, 134–139.
- Ye, Ariela. 2024. “A say verb or complementizer: Analyzing *shuo* following communicatives and non-communicatives.” Paper presented at the 55th Annual Meeting of the North East Linguistic Society (NELS), Yale University, 17–18 October.
- Yeung, Ka-Wai. 2006. “On the status of the complementizer *waa6* in Cantonese.” *Taiwan Journal of Linguistics* 4 (2006): 1–48.
- Yip, Ka-Fai. 2020. “On the position of perfective aspect: evidence from Yangchun Yue dialect.” Paper presented at 2020 Linguistic Society of Hong Kong Annual Research Forum (ARF), The Chinese University of Hong Kong.
- Yip, Ka-Fai. 2024. “Inner aspect in Cantonese.” Ms., Yale University.
- Yuan, Xuetong, and Hiroaki Saito. 2021. “Matrix *shuo* in Mandarin.” In *Proceedings of the 32nd North American Conference on Chinese Linguistics (NACCL-32)*.
- Yuan, Yulin. 1993. *Xiandai Hanyu Qishiju Yanjiu [A Study of Imperative Sentences in Modern Chinese]*. Beijing: Peking University Press.
- Zhan, Bohui. 1958. “Yuefangyanzhong de xuci “qin, zhu, fan, mai, tian” [Functional elements *can 1, zyu6, faan 1, maai 4, tim 1* in Cantonese].” *Zhongguo Yuwen [Studies of the Chinese Language]*, no. 3, 119–122.
- Zhang, Niina Ning. 2019. “Sentence-final aspect particles as finite markers in Mandarin Chinese.” *Linguistics* 57 (5): 967–1023.

8 Appendix: Inner aspect and phase complements

Most attested postverbal inner aspectual elements are “phase complements” (PCs). This term is first introduced by Chao (1965). PCs refer to postverbal elements expressing “the phase of an action in the first verbs rather than some result in the action or goal” (p.446, Sect. 6.6.3). While they often share similar grammatical properties with resultative verbal complements (RVCs), their semantic contribution is aspectual.

PCs may follow resultative verbal complement (RVCs) and should be distinguished from them. The ordering suggests that PCs are structurally higher than RVCs.

(108) Phase complements following RVCs

- a. haumei ngodei tung Hong Waa zungjyu **daa-hoi-dou** waatai, faatjin
afterwards 1PL with Akina Hong eventually hit-open-ACHV topic discover
jyunloi keoi hou funny tung nice.
actually 3SG very funny and nice
'We eventually opened up the topic with Akina Hong, and found that she is really funny
and nice.' (News, 2022-1-22) [C]
- b. Zenme ba shouji nong-huai-diao erqie kan-bu-chulai shi renweide?
how BA cell.phone make-broken-ACHV and see-not-out COP man.made
'How do you break a cell phone without letting people know that it was you?' (Forum,
2021-12-26) [M]

8.1 Inner aspect in Mandarin

Examples of inner aspectual elements in Mandarin are given below. (a-g) refer to the endpoint of events, expressing meanings of event achievement, completion, successful perception, etc. (h-i) make reference to the internal intervals of events and express continuation.

(109) Postverbal inner aspectual elements in Mandarin

(Chao 1965:446-450, Li and Thompson 1981:65-66, Sybesma 2017; Lu, Lipták, and Sybesma 2019)

- a. *zhao* 'be on target', e.g. *zhao-zhao* 'found'
b. *dao* 'arrive', e.g. *mai-dào* 'bought'
c. *diao* ', e.g. *mai-diao* 'sold'
d. *cheng* 'succeed', e.g. *kan-cheng (dian ying)* 'succeeded in seeing movies'
e. *hao* 'good', e.g. *suo-hao* 'locked properly'
f. *wan* 'finish', e.g. *chi-wan* 'finished eating'
g. *jian* 'see (vs. look)', e.g. *tīng-jian* 'hear (vs. listen)'
h. *zhu* 'hold', e.g. *zhan-zhu* 'stand still'
i. *zhe* 'IPFV', e.g. *zuo-zhe* 'sit still' (verbs with degree of attachment, Tsai 2008)

These elements are regarded as a middle aspect layer in Sybesma (2017) and Lu, Lipták, and Sybesma (2019). The top layer is occupied by the aspectual suffix *-le*, and the lowest layer is occupied by resultative verbal complements (RVCs). The three aspect layers are all in between *vP* and *VP*.

(110) [_{vP}...[_{AspP3-Realization} *-le* [_{AspP2} PCs [_{AspP1-Telicity} RVCs [_{VP}...

(111) Relative order of phase complements with other postverbal elements

- a. *PCs < le* (Sybesma 2017:303)
Women mai-**diao-le** fangzi.
1PL sell-PC-PFV house
'We finally sold the house.'

- b. *RVCs < PCs < le* (Lu, Lipták, and Sybesma 2019:303)
 ta bb wo-de yundongxie pao-**huai-diao-le**
 3SG BA 1SG-SUB sport.shoe run-broken-PC-PFV
 ‘He ran my running shoes completely to pieces’

In Tsai (2008), PCs are regarded as the lowest layer of aspectual projections (Inner Aspect), including *zhe*² ‘keep/still’ (attach to verbs expressing attachment) and *wan* ‘finish’. RVCs are not regarded as aspectual heads. The higher layer is further split into two: Outer Aspect holds elements that can associate with T, and Middle Aspect being holds aspectual suffixes that exhibit incompleteness effects due to failure to associate with T. The dividing lines of the three aspects are on *vP* and *VP*.

- (112) [_{TP}...[_{AspP1} *zai,-guo* [_{vP}...[_{AspP2} *-zhe¹, -le*...[_{VP} V-Asp3=PCs

8.2 Inner aspect in Cantonese

The list of inner aspectual elements in Cantonese is given below. (a-h) denote the endpoint of events with varying meanings such as event achievement, completion, successful perception, etc. (i-j) also make reference to endpoints, but they encode an additional salient ‘in advance’ meaning. (k) mainly expresses an adversative meaning with a requirement on achieved events. (l-m) concern the internal intervals of events and convey continuation (see Yip 2024 for extensive discussion).

- (113) Postverbal inner aspectual elements in Cantonese
 (Cheung 1972, 2007:113-115, Matthews and Yip 1994:210-221, S.-W. Tang 2015:71-89)
- a. *zoek6* ‘be on target’, e.g. *fan3-zoek6* ‘slept’
 - b. *dou2* ‘arrive’, e.g. *wan2-dou2* ‘found’ (cf. J. Huang 2021)
 - c. *gin3* ‘see (vs. look)’, e.g. *teng1-gin3* ‘hear (vs. listen)’
 - d. *hou2* ‘good’, e.g. *zou6-hou2* ‘being done’
 - e. *dim6* ‘all right’, e.g. *gaau2-dim6* ‘finished, settled’
 - f. *jyun4* ‘finish’, e.g. *sik6-jyun4* ‘finished eating’
 - g. *seng4* ‘succeed’, e.g. *joek3-seng4* ‘succeeded in making an appointment’
 - h. *hei2* ‘finish, ready, (lit.) lift’, e.g. *waak6-hei2* ‘finished drawing’
 - i. *lok6* ‘finish (a long time ago), (lit.) fall’, e.g. *zyu2-lok6* ‘taught way back then’
 - j. *ding6* ‘in advance’, e.g. *zyu2-ding6* ‘cooked in advance’ (cf. Wong 2018)
 - k. *can1* ‘adversative’, e.g. *da-can* ‘injure by hitting’
 (with achievement requirements, cf. Sio 2020)
 - l. *zyu6* ‘hold’, e.g. *kam2-zyu6* ‘cover still’
 - m. *sat6* ‘firm’, e.g. *mong6-sat6* ‘keep looking’

While most of them are “phase complements”, some may not be labeled so in the original sources. S.-W. Tang 2015, for example, treats *lok6*, *ding6*, *can1*, *zyu6* and *sat6* as verbal suffixes.

We employ three tests for inner aspects: (i) suffixation of outer aspectual affixes like perfective *-zo*; (ii) *-dak/m-* ‘able/not’ infixation; (iii) following an RVC.

We take the first test as the crucial diagnostics for distinguishing inner aspect from outer aspectual suffixes. All the inner aspect markers can be suffixed by the perfective *-zo*. Note that this test does not provide evidence for the morphological status (i.e. whether these postverbal elements are verbal complement or suffixes), since suffix stacking is possible in Cantonese (S.-W. Tang 2015). Instead, this test shows that inner aspectual elements are lower than *-zo* in the structure (and thus closer to the root by Mirror Principle, Baker 1985).

- (114) *-zo* ‘PFV’ suffixation (J. Huang 2021:4)
 Aaming lou-dou-zo jat-go offer.
 Ming get-PC-PFV one-CLF offer
 ‘Ming got an offer.’

The second test is *-dak/m-* ‘able/not’ infixation, which is a typical property displayed by RVCs.³⁸ The test provides evidence for the morphological status of these elements being PCs as opposed to aspectual suffixes.

- (115) *-dak/m-* ‘able/not’ infixation (Video caption, 2021-2-10)
 jausi dou lo-m-dou, houci gamjat gam-do jan, zau meibit lo-dak-dou
 sometimes also get-not-PC like today that-many person then uncertain get-able-PC
 ‘Sometimes (you) cannot get it. When there are as many people like today, it’s not certain that (you) can get it.’

The third test is whether the postverbal elements may follow a RVC, which has been discussed above. This test effectively distinguishes these inner aspectual elements from RVCs since RVC stacking is not possible in Cantonese.

The results are summarized below. We treat the first two rows as PCs, and the last two rows as verbal suffixes.³⁹

Inner aspectual elements	<i>-zo</i> suffixing	<i>-dak/m-</i> infixing	following RVCs
<i>-dou2, -jyun4, -zyu6</i>	YES	YES	YES
<i>-zoek3, -gin3, -hou2, -dim2, -seng4, -can1, -sat6</i>	YES	YES	NO
<i>-ding6</i>	YES	NO	YES
<i>-lok6, -hei2</i>	YES	NO	NO

Table 6: Grammatical properties of inner aspectual elements in Cantonese

38. Except universal *-saai*, which is arguably a suffix but it can also take *-dak/m-* ‘able/not’ infixation (P. P.-I. Lee 2012).

39. That *-lok6* and *-hei2* cannot follow RVCs might be due to their preference for a monosyllabic host verb.