

Obligatory adjuncts and facilitators: The view from passives, topicalization, and potentially middles

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1 Introduction

Adjuncts are usually understood to be elements which are optional. Adjuncts are attached to X' or XP levels, and leave the label unchanged. However, in the decades of research on adjuncts, there appear to be cases where adjuncts seem to be obligatory: a grammatical sentence becomes ungrammatical just by removing an adjunct. Such data has been reported in the following language-domains: English passives (Grimshaw & Vikner 1993), nominal modifiers (Ackerman & Goldberg 1996, Goldberg & Ackerman 2001), and middles (Goldberg & Ackerman 2001, Newman 2020) and Mandarin Chinese verb-doubling (Lai 2021) and object internal topicalization (Chen & Yip 2024). In some of the cases examined in the literature, other usually optional elements like modals, negation, polarity/verum focus become obligatory in certain constructions. Because such elements cannot be thought of as adjuncts, the term *facilitator* is used to encompass all cases where an usually optional element becomes obligatory in certain constructions.

1.1 Obligatory adjuncts across empirical domains

Adjuncts are usually thought of as modifiers that are always optional, in contrast to arguments, which are sometimes obligatory. A sizeable literature has observed certain cases in which adjuncts appear to be obligatory. Most initial work in an empirical domain describe the unacceptable sentences as ungrammatical, marked with *. As is to be seen in my own reanalysis, the vast majority of these cases will be shown to be *infelicitous in a context/most contexts/all contexts*, rather than plainly ungrammatical. Thus, while I will report original judgements from the literature in this section, most of which involve the marking *, I do not endorse this marking; rather, I will assign # to these examples. Grimshaw & Vikner (1993), picking up an observation due to Gross (1979), shows that sometimes passive constructions in English have adjuncts which appear to be obligatory, such as *by*-phrases.¹

- (1) a. *This house was built/designed/constructed.
b. This house was built/designed/constructed by a French architect.
c. *Tomatoes are grown; *The best tomatoes are grown.
d. (The best) tomatoes are grown by organic farmers.

Adverbials of time, place, manner, and purpose can also appear in the *by*-phrase's stead:

¹There is a long standing debate in the literature on English passives with respect to whether the *by*-phrase or the implicit agent in the former's absence is syntactically projected as an argument (Collins 2005, 2024: a.o.) or not (Bruening 2013, 2024: a.o.), in which cases the *by*-phrase is an adjunct. I do not take a stance in this debate and would like to refer the reader to the mentioned works for further details. However, I do assume that *by*-phrases in passive constructions are adjuncts for convenience in this paper.

- (2) a. This house was built yesterday/in ten days/in a bad part of town/only with great difficulty.
- b. (The best) tomatoes are grown in Italy/organically.

Grimshaw & Vikner (1993) also note that certain adjuncts appear to be obligatory in prenominal past participle modifiers as well:

- (3) a. ??a photographed building/a grown tomato
- b. a much-photographed building/a locally-grown tomato
- (4) a. *a built house, a rebuilt house, a recently built house
- b. *a designed house, an architect-designed house, a carefully designed house

Goldberg & Ackerman (2001) highlight parallel phenomena with English middles (echoing Jackendoff 1972, Ernst 1983, Fellbaum 1986, van Oosten 1984) and cognate objects (Opdycke 1941):

- (5) a. #The car drives.
- b. The car drives like a boat/easily/365 days a year/only in the summertime.
- (6) a. #I dreamed a dream.
- b. I dreamed a scary dream.

Switching to a different language, in Mandarin Chinese, it is observed that verb-doubling (Lai 2021) and internal topicalization (Chen & Yip 2024) also involve obligatory adjuncts:

- (7) Internal topicalization: verb-doubling
 - a. *Lisi* [_{VP} *qi na-pi ma*]₁ *qi-le* {*liang-ci /san-ge xiaoshi*} —₁.
 - Lisi ride that-CL horse ride-PFV two-time three-CL hour
 - ‘Lisi rode the horse {twice/for three hours}.’
 - b. **Lisi* [_{VP} *qi na-pi ma*]₁ *qi-le* —₁.
 - Lisi ride that-CL horse ride-PFV
 - Intended: ‘Lisi rode the horse.’
- (8) Internal topicalization: object topicalization
 - a. *Lisi kafei₁ mei-tian he* —₁.
 - Lisi coffee every-day drink
 - ‘Lisi, coffee, drinks it every day.’
 - b. **Lisi kafei₁ he* —₁.
 - Lisi coffee drink
 - Intended: ‘Lisi, coffee, drinks it.’

In this paper, I will mainly focus on English passives and middles, as well as Mandarin Chinese object topicalization and verb-doubling, though I believe accounts similar to the ones to be developed are ready to be employed for the other empirical domains.

1.2 Analytic approaches

Various authors have attempted to explain the obligatoriness of adjuncts in these constructions. Broadly speaking, there are three approaches:

- (9) a. Event-structural: Grimshaw & Vikner (1993)
- b. Pragmatic: Goldberg & Ackerman (2001)
- c. Syntactic (anti-locality): Newman (2020), Lai (2021), and Chen & Yip (2024)

1.2.1 Event-structural approach

Grimshaw & Vikner (1993) observes that obligatory adjuncts in passives usually involve verbs whose event structure contains two sub-events, a process and a resulting state, i.e., *accomplishments*. Additionally, they are verbs of creation; accomplishment verbs of non-creation do not have obligatory adjuncts.

- (10) a. *The house was built.
- b. The house was destroyed.
- c. The conversation was recorded.

It is proposed that the two sub-events of the verb must be ‘identified.’ The theme of the verbs of creation does not exist prior to the completion of the process; therefore, the object cannot identify the process; it only identifies the resulting state. On the other hand, the agent, because it exists throughout the process, can identify it. Then, in a passive, when the agent is missing from the structure, the process will fail to be identified, unless there is an adjunct that modifies the process. For accomplishment verbs of non-creation (either those like *destroy*, where the theme no longer exists as a result of the process, or *record*, where the theme is neither created nor destroyed as a result of the process), the theme exists throughout the process and therefore can identify the process. For such verbs, the theme also identify the resulting state. Thus, even in a passive where the agent is absent, both sub-events of accomplishment verbs of non-creation are identified, both by the theme.

1.2.2 Pragmatic approach

Goldberg & Ackerman (2001) bring up cases that are problematic for the event identification approach in Grimshaw & Vikner (1993). First, it is not only just accomplishment verbs of creation that require adjuncts to be present; statives and activities can also require adjuncts.

- (11) a. #The claim was believed.
- b. The claim was believed by many/in the seventh century/in the South.
- (12) a. #The book was read.
- b. The book was read by many/yesterday/over the airwaves/in the show.
- (13) a. #The television program was watched.
- b. The television program was watched all over the country/by millions/with anticipation.

In such verbs, there is arguably only one sub-event to identify, and they are already identified by the theme. However, an adjunct still appears to be required. Second, adjuncts that identify the sub-events are no longer required as soon as there is some variation to the modality, polarity, and focus.

- (14) a. The house will be built.
- b. The house has been built.
- (15) a. The house might be built.
- b. The house should be built.
- (16) The house wasn’t built.
- (17) The house WAS built.
- (18) The HOUSE was built (not the garage).
- (19) A house was built.

In view of and motivated by these counterexamples, Goldberg & Ackerman (2001) employ the pragmatic principle that every utterance should have an informational focus. Focus has both formal and pragmatic reflexes; its pragmatic reflex is to convey new information. In *The house was built* with the default prosody, focus is put on *built*; however, because it is already common ground that houses are built, or in general, it is common ground that existing artifacts were constructed. Thus, the pragmatic requirement of focus to convey new information is not satisfied, in a situation that Goldberg & Ackerman (2001) refer to as *focus failure*. The problem is that there is no formal definition of *focus failure*, and it is hard to state explicitly why certain focus placements rescue the sentence.

1.2.3 Syntactic (anti-locality) approaches

A very different approach to obligatory adjuncts is employed in Newman (2020), Lai (2021), and Chen & Yip (2024): the adjuncts appear to be obligatory because they serve as *facilitators* for movement (of the subject or the topic) that would otherwise be too local, violating anti-locality constraints on movement. Lai (2021) assumes Comp-to-Spec anti-locality in Abels (2003) for verb-doubling, which is analyzed as an instance of internal topicalization. Newman (2020) defines a new version of anti-locality that unifies Comp-to-Spec anti-locality (Abels 2003) and Spec-to-Spec anti-locality (Erlewine 2016, 2020) and applies it to the analysis of English middles. Chen & Yip (2024) adopt the version of anti-locality from Newman (2020) for the analysis of internal topicalization of objects in Mandarin Chinese, with different additional assumptions. The anti-locality approaches are quite complex, and I will defer a full discussion of their mechanisms and shortcomings in section 4. Before then, I will present a pragmatic proposal essentially in the spirit of Goldberg & Ackerman (2001), which is more formally explicit. I will apply the proposal to the analysis of English passives, English middles, and Mandarin Chinese object topicalization and verb-doubling.

2 Proposal

While the spirit of the proposal is exactly the one in Goldberg & Ackerman (2001), the core concept of *focus failure* is rather vaguely discussed there: what does it mean for a focus to ‘fail to convey new information’? Newer, question-based approaches to the felicity of focus placement comes to the help: Partition by Exhaustification (PbE, Fox 2018, 2020a,b, Katzir 2024).

2.1 Question-answer congruence: Partition by Exhaustification

It has been observed that focus placement is closely connected to questions. In answers to explicit *wh*-questions, the constituent that replaces the *wh*-phrase, ‘corresponding to what was asked about,’ is generally F-marked (Katzir 2024), as in the following examples:

- (20) A: Who bought a convertible?
 B: KIM_F bought a convertible.
- (21) A: What did Kim bring?
 B: Kim brought [a CONVERTIBLE]_F.

This tight connection is what has been referred to as *question-answer congruence*. Because there are pragmatic constraints on the felicity of questions in contexts, these felicity constraints are then transferred to the focus placements that trigger the questions. In other words, a focus replacement on a sentence can be infelicitous because the question it is congruent to is infelicitous in a given context.

In the literature on focus, the relationship between focus and question, as well as the pragmatic constraints on questions, has been variously formalized. For concreteness, I will follow the recent proposal in Katzir (2024), with the following independently motivated principles that govern the use of foci, mediated by questions:

- (22) **F-TO-QUESTION**
A suitably-chosen subset of the focus alternatives of a sentence S in the context C , $\text{Alt}_F(S, C)$, corresponds to a question.
- (23) **Q-A-FELICITY**
 - a. A question induced by the assertion, as in F-TO-QUESTION, is a good question in the given context C .
 - b. The assertion is a good answer to this question.
- (24) **PARTITION-BY-EXH**
A question is good in a given context iff its elements, once exhaustified, partitions the context set C .

The theory of focus alternatives adopted is the structurally defined alternatives in Katzir (2007) and Fox & Katzir (2011).

- (25) $\text{Alt}_F(S, C) = \{S' : S' \text{ is derived from } S \text{ by replacing focused constituents } x_1, \dots, x_n \text{ with } y_1, \dots, y_n, \text{ where } y_1 \preceq_C x_1, \dots, y_n \preceq_C x_n\}$
- (26) $S' \preceq_C S$ if S' can be derived from S by successive replacements of subconstituents of S with elements of the substitution source for S in C , $\text{SS}(S, C)$.
- (27) $\text{SS}(X, C)$, the substitution source for X in context C , is the union of the following sets:
 - a. The lexicon
 - b. The sub-constituents of X
 - c. The set of salient constituents in C

Exhaustification as referred in PARTITION-BY-EXH is performed by merging the Innocent Exclusion-based exhaustivity operator EXH , defined in (28), at the matrix position for each of the alternatives.

- (28) **Innocent Exclusion-based exhaustivity operator** (Fox 2007, Bar-Lev & Fox 2020)
 - a. $\llbracket \text{EXH} \rrbracket(Q)(p)(w) \Leftrightarrow p(w) \wedge \forall q \in \text{IE}(p, Q). \neg q(w)$
 - b. $\text{IE}(p, Q) = \bigcap \{Q' \subseteq Q : Q' \text{ is a maximal subset of } Q, \text{ s.t. } \{\neg q : q \in Q'\} \cup \{p\} \text{ is consistent}\}$

EXH asserts its prejacent and negates the all innocently-excludable alternatives. The innocently excludable alternatives are those in the intersection of all the maximal subsets of Q whose members, when negated, are consistent with the prejacent. Note that the notion of *consistency* used in (28) is one of logical consistency and is thus insensitive to contextual restrictions. For the purposes of PARTITION-BY-EXH, Q , the set of alternatives under consideration for exclusion is exactly the *suitably-chosen subset of the focus alternatives* of the sentence, which should correspond to the question. The acceptability of relevant sentences will then be transformed into an issue about whether there is a focus placement that ensures congruence with a good question. The general pipeline for evaluating the felicity of focus placement on sentence S in context C is thus this:

- (29) a. **Step 1:** Replace the focused constituent with its alternatives, as defined in (26), deriving the set of alternatives $\text{Alt}_F(S)$.

- b. Step 2: Select a subset of $\text{Alt}_F(S)$ as the question congruent to, Q .
- c. Step 3: Exhaustify each element of Q with respect to Q .
- d. Step 4: Collect the resulting propositions into a set P , and check if P partitions the context C .

Consider (30) as an example that illustrates how PARTITION-BY-EXH works. Suppose that the salient subset of the alternatives to *John* is {John, Bill, Mary}; note that this set can be derived via the definitions in (26)–(27). Then, PARTITION-BY-EXH demands that (31) is a partition of the context. Spelling out of the effect of EXH, and because EXH is based on logical consistency, we obtain the set in (32).

(30) John_F came to the party.

(31) $\left\{ \begin{array}{l} \llbracket \text{EXH}_Q \text{ John came to the party} \rrbracket, \\ \llbracket \text{EXH}_Q \text{ Bill came to the party} \rrbracket, \\ \llbracket \text{EXH}_Q \text{ Mary came to the party} \rrbracket \end{array} \right\}$, where $Q = \left\{ \begin{array}{l} \text{John came to the party,} \\ \text{Bill came to the party,} \\ \text{Mary came to the party} \end{array} \right\}$.

(32) $\left\{ \begin{array}{l} j \wedge \neg b \wedge \neg m, \\ \neg j \wedge b \wedge \neg m, \\ \neg j \wedge \neg b \wedge m \end{array} \right\}^2$

Also note that there are a few requirements for a set P to qualify as the partition of a context C in (33). Applying the three properties to (31), we obtain the requirement in (34) (disjointness is logically guaranteed due to the logical mutual exclusion among the elements). The state of the context where (30) can be used felicitously could then thus be informally described as in (35).

- (33) a. *Non-emptiness*: $\forall q \in Q. q \cap C \neq \emptyset$
b. *Disjointness*: $\forall q, q' \in Q. q \cap q' \cap C = \emptyset$
c. *Completeness*: $\bigcup \{q \cap C : q \in Q\} = C$
- (34) $j \wedge \neg b \wedge \neg m$, $\neg j \wedge b \wedge \neg m$, and $\neg j \wedge \neg b \wedge m$ are all (*non-emptiness*) and only (*completeness*) the contextual possibilities
- (35) Exactly one of the following holds:
 - a. John and only John came to the party, or
 - b. Bill and only Bill came to the party, or
 - c. Mary and only Mary came to the party.

If for example, it is contextually possible that both John and Bill came to the party, or if it is contextually impossible that Mary came to the party, or if it is possible that someone other than John, Bill, or Mary came to the party, then (30) is not felicitous. Needless to say, it should also be the case that the interlocutors are concerned about which of the disjuncts (a-c) is the case, i.e., the question *Which of John, Bill, and Mary came to the party?* should be salient.

3 Re-examining the data

This section applies the proposal sketched above to the empirical domains of English passives, Mandarin object topicalization, and Mandarin verb-doubling. I will also attempt to give an account on the licensing of English middles, however it will be shown that there is a remaining class of overgeneration issue that the present account faces.

² j , b , and m abbreviate $\llbracket \text{John came to the party} \rrbracket$, $\llbracket \text{Bill came to the party} \rrbracket$, and $\llbracket \text{Mary came to the party} \rrbracket$, respectively.

3.1 English passives

The re-examination of the English passive examples will be of three parts. The first part applies PARTITION-BY-EXH to derive the infelicity of *The house was built*. The second part explains why adding adjuncts dissolves the infelicity under PARTITION-BY-EXH. The third part provides an explicit explanation of how the various adjunctless rescue strategies mentioned in Goldberg & Ackerman (2001) make the sentence felicitous.

3.1.1 Deriving the Stalnakerian principle from PARTITION-BY-EXH

Motivation Goldberg & Ackerman (2001) essentially attributes the badness of *The house was built* to its failure to contribute new information. *The house* picks out a unique contextually salient house. It is common sense and therefore common ground that all houses are built. This means that it is also common ground that the unique contextually salient house was built. Then, *The house was built* brings nothing new to the common ground prior by its utterance. There is a well-known principle advanced by Stalnaker (1978) that explicitly formulates this restriction:

- (36) A proposition asserted is always true in some but not all of the possible worlds in the context set.

The house was built violates (36), because it is true in all possible worlds in any context set compatible with common sense. However, (36) could be too strong. As Goldberg & Ackerman (2001) acknowledges the challenge posed by McConnell-Ginet (1994) in the following example:

- (37) The house was built by someone or other.

Because it should also be common sense and therefore common ground that all houses are built by someone, (37) is predicted to be infelicitous by the Stalnakerian principle. However, (37) seems to be completely natural. Intuitively, (37) triggers an ignorance or indifference implicature that suggests that the speaker does not know or does not care who built the house. It is this inference that makes (37) no longer uninformative; rather, it does bring new information to the context, although the information is about the epistemic state of the speaker instead of about the house. Nevertheless, (37) instructs us that we cannot directly apply the Stalnakerian principle to literal meaning of the sentence as the proposition. Instead, certain inferences must also be considered. PARTITION-BY-EXH involves the use of exhaustification, which has been the standard grammatical device to derive scalar implicatures (Fox 2007, Chierchia, Fox & Spector 2012) as well as a prominent approach to ignorance inferences (Meyer 2013). PARTITION-BY-EXH also derives felicity conditions on sentences in a given context. Then the natural hope is to use PARTITION-BY-EXH to simultaneously derive the relevant inferences as well as the felicity conditions. I now set out to achieve this goal, starting with a derivation of the infelicity of *The house was built*.

Infelicity of *The house was built* The infelicity of *The house was built* still ultimately results from its being a contextually tautology; however, the route to the infelicity under PARTITION-BY-EXH is different as under the original Stalnakerian principle.

Because exhaustification is based on a logical rather than contextual conception of entailment, alternatives derived via lexical substitution cannot stand in entailment relationships; rather, they must be logically independent. This kind of logical independence can be understood on rather radical terms: the alternatives can be treated on par with different symbols in propositional logic.

Consider the following exemplary ways in which an element of the sentence *The house was built* can be focused, and the corresponding alternative sets:

- (38) The house was built_F. verb focus
 $\left\{ \begin{array}{l} \text{The house was built,} \\ \text{The house was painted,} \\ \text{The house was sold} \end{array} \right\}$
- (39) The house_F was built. NP focus
 $\left\{ \begin{array}{l} \text{The house was built,} \\ \text{The hut was built,} \\ \text{The cottage was built} \end{array} \right\}$
- (40) The house AFF_F was built. polarity focus
 $\left\{ \begin{array}{l} \text{The house was built,} \\ \text{The house was not built} \end{array} \right\}$

In (40), when the polarity head is focused, while the two polar alternatives are not logically independent, they are still (mutually) innocently excludable.

In PARTITION-BY-EXH, every alternative will serve once as the prejacent of EXH, and each must give rise to a non-empty cell after exhaustification and intersection with the context set. Then, pick any alternative other than the original, and see the effect of EXH. Take *The house was painted* in (38) as an example. Every other alternative can be logically consistently jointly negated, and therefore is innocently excludable. EXH will negate them to derive a cell in the partition. Thus, we obtain the following result for the cell that corresponds to *The house was painted*:

- (41) The house was painted, but was not built or sold.

(41) is a contextual contradiction, because a contextual tautology *The house was built* is being negated. Thus, we are able to derive the oddness of *The house was built*: EXH on another alternative will forcibly negate *The house was built*, which is a contextual tautology, resulting in a contextual contradiction. But PARTITION-BY-EXH at the same time requires that each of the alternatives corresponds to a valid cell in a partition, which cannot be empty, but contextual contradictions are empty sets. In this way, all of (38)–(40) are predicted to be infelicitous and odd by PARTITION-BY-EXH.

Felicity of *The house was built by someone or other* I follow Meyer (2013) in deriving ignorance inferences via EXH and a doxastic necessity operator K_s , where s is the holder of the doxastic attitude. I assume that phrases like *someone or other* need the merger of K_s in a c-commanding position to be licensed. I also assume that *someone or other* is focused. Therefore, what we have for *The house was built by someone or other* has the following structure:

- (42) K_s The house was built by [someone or other]_F.

Alternatives to *someone or other* should include the other salient individuals in the context, say John, Mary, and Bill. Suppose for simplicity that it is already common ground that exactly one person built the house. Then we have:

- (43) $Q = \left\{ \begin{array}{l} K_s [\text{The house was built by someone or other}], \\ K_s [\text{The house was built by John}], \\ K_s [\text{The house was built by Mary}], \\ K_s [\text{The house was built by Bill}] \end{array} \right\}$

I assume that *someone or other* is semantically equivalent to an existential quantifier whose domain is restricted to the contextually salient individuals. *The house was built by someone or other* then can be paraphrased as *The house was built by John, Mary, or Bill*. Then, K_s *The house was built by someone or other* is logically entailed by the other alternatives. This means that it is not innocently-excludable for the other alternatives. On the other hand, all of the other alternatives are innocently-excludable for *The house was built by someone or other*.³ This is because it is consistent for the speaker to believe that the house was built by someone, while at the same time not having the belief that John built the house, the belief that Mary built the house, or the belief that Bill built the house. Because it is assumed that it is common ground that exactly one person built the house, believing that one of the three people built the house necessitates rejecting the beliefs that the other people built the house, and further believing that the other people did *not* build the house. We end up with the following cells for a partition after exhaustification and intersecting with the context set:

$$(44) \quad \left\{ \begin{array}{l} K_s(\exists!q \in \{j, m, b\}. q) \wedge \neg K_s(j \wedge \neg m \wedge \neg b) \wedge \neg K_s(\neg j \wedge m \wedge \neg b) \wedge \neg K_s(\neg j \wedge \neg m \wedge b), \\ K_s(j \wedge \neg m \wedge \neg b), \\ K_s(\neg j \wedge m \wedge \neg b), \\ K_s(\neg j \wedge \neg m \wedge b) \end{array} \right\}$$

(44) is indeed a partition of the context, corresponding to the four possible and mutually exclusive doxastic states for the speaker about the question which person of John, Mary, and Bill built the house.

One might raise the issue that if K_s , a covert operator, is available for merger *The house was built by someone or other*, it should also be available for *The house was built*, potentially also giving rise to a partition of the context set in the same manner. However, this is not the case. Because there is no overt *by*-phrase that makes available the alternatives such as *The house was built by John*. The underlying assumption here is that in short passives, the implicit agent is not syntactically projected (see discussion in Bhatt & Pancheva 2017 for why arguments in the literature for the syntactic reality of the implicit argument in passives are not decisive), and therefore the short passive is structurally less complex than passives with *by*-phrases, making the latter unavailable as alternatives to the former under the Katzirian structural theory of alternatives. Alternatively, if we accept that the implicit agent is actually syntactically projected, we can also assume that it cannot be focused and therefore cannot generate the desired alternatives. Putting narrow focus on the implicit agent should be impossible because focus needs to be phonetically realized, but the implicit agent is covert (Fox & Spector 2018).

3.1.2 The effect of the adjunct

Adding an overt adjunct, for example a *by*-phrase indicating the builder, provides a focus that creates a proper partition. Suppose for convenience that it is already common ground that one and only one of John, Mary, and Bill built the house, and each of the three being the builder remains contextually possible.

(45) a. The house was built by John_F.

³It is assumed here that the short passive does not logically entail the existence of an agent or causer, i.e.,

(i) $\llbracket \text{The house was built} \rrbracket^w = \exists e. \text{build}^w(e) \wedge \text{theme}(e) = \iota x. \text{house}^w(x)$

as opposed to the literal meaning of *The house was built by someone (or other)*:

(ii) $\llbracket \text{The house was built by someone (or other)} \rrbracket^w = \exists e. \exists y. \text{build}^w(e) \wedge \text{theme}(e) = \iota x. \text{house}^w(x) \wedge \text{agent}(e) = y$

- b. $\left\{ \begin{array}{l} \text{EXH}_Q \text{ The house was built by John,} \\ \text{EXH}_Q \text{ The house was built by Bill,} \\ \text{EXH}_Q \text{ The house was built by Mary, ...} \end{array} \right\} = \left\{ \begin{array}{l} j \wedge \neg b \wedge \neg m, \\ \neg j \wedge b \wedge \neg m, \\ \neg j \wedge \neg b \wedge m \end{array} \right\}$
- c. $Q = \left\{ \begin{array}{l} \text{The house was built by John,} \\ \text{The house was built by Bill,} \\ \text{The house was built by Mary} \end{array} \right\}$
- d. By which person among John, Mary, and Bill was the house built?

We can see that (45a) is a partition of the context, where every world in the context set is either a $j \wedge \neg b \wedge \neg m$ -world, a $\neg j \wedge b \wedge \neg m$ -world, or a $\neg j \wedge \neg b \wedge m$ -world, and all three kinds of world are present in the context. The same process can apply to other adjuncts.

3.1.3 Why the adjunctless rescue strategies work

There are ways to save the sentence *The house was built* without adjuncts, as documented in Goldberg & Ackerman (2001):

- (46) a. The house will be built.
b. The house has been built.
- (47) a. The house might be built.
b. The house should be built.
- (48) The house wasn't built.
- (49) The house WAS built.
- (50) The HOUSE was built (not the garage).
- (51) A house was built.

All of the above examples except (51) involve intensionalizing *the house*⁴, i.e., it is now an individual concept of type $\langle s, e \rangle$, or a function from worlds to individuals, as in (52b), as opposed to (52a), the extensional house individual of type e .

- (52) a. $\llbracket \text{the house}_1 \rrbracket^w = [\exists! x_e. \text{house}_{\langle e, t \rangle}^w(x)]. \iota x. \text{house}^w(x)$
b. $\llbracket \text{the house}_2 \rrbracket^w = [\exists! c_{\langle s, e \rangle}. \text{house-concept}_{\langle \langle s, e \rangle, t \rangle}^w(c)]. \iota c. \text{house-concept}^w(c)$

The individual concept of the house could be understood as the house in a plan, a blueprint, and so forth. For example, (46a) says that there is a unique salient concept of a house (which can be represented in a blueprint, for example) that will be realized, resulting in a physical house. Because the concept of a house might fail to be realized in a world w , the house concept should map w to a distinguished null individual representing non-existence, say, $\perp_e$, also utilized by Bylinina & Nouwen (2018) in their analysis of *zero*.

- (53) Example house-concept

$$c = \left\{ \begin{array}{ll} w_1 & \mapsto h_1 \\ w_2 & \mapsto h_2 \\ w_3 & \mapsto \perp_e \end{array} \right\}$$

$\perp_e$ has the property that no lexical predicate that is not explicitly enriched with $\perp_e$ (such as when the $\times$ operator from Bylinina & Nouwen (2018) is applied) is true of it, no matter which argument $\perp_e$ fills.

⁴I will return to (51) shortly below.

$$(54) \quad \forall f_{\langle \dots, \langle e, \langle \dots, t \rangle \rangle \rangle}. f(\dots)(\perp_e)(\dots) = 0$$

Note that $\perp_e$ must be different from the *undefined* object $\#_e$ of type e , which instead of giving 0 to any predicate, gives $\#$. Correspondingly, *build* should also have two versions, and the second version (55b) is used for the examples above.

$$(55) \quad \begin{array}{ll} \text{a.} & \llbracket \text{build}_1 \rrbracket^w = \lambda x_e. \lambda y_e. \text{build}^w(y, x) \\ \text{b.} & \llbracket \text{build}_2 \rrbracket^w = \lambda c_{\langle s, e \rangle}. \lambda y_e. \text{build}^w(y, c(w)) \end{array}$$

The resulting full denotations for the sentences are as follows, assuming for simplicity that passives involve existentially closing the agent position:

$$(56) \quad \begin{array}{ll} \text{a.} & \lambda w. \llbracket \text{The house}_1 \text{ was built}_1 \rrbracket^w = \lambda w : \exists! x. \text{house}^w(x). \exists y. \text{build}(y, \iota x. \text{house}(x)) \\ \text{b.} & \lambda w. \llbracket \text{The house}_2 \text{ was built}_2 \rrbracket^w = \lambda w : \exists! c. \text{house-concept}^w(c). \exists y. \text{build}(y, (\iota c. \text{house-concept}(c))(w)) \end{array}$$

This setup has the property that *The house₁ was built₁* is a contextual tautology, but *The house₂ was built₂* is not. If in every w in a context, there is a unique existing house x (a house₁) in w , then by common sense, x was built. However, it is not the case if in every w in a context, there is a unique house concept c (a house₂) in w , then by common sense, $c(w)$ was built. This is because it is possible that $c(w) = \perp_e$, meaning the house concept fails to be realized in w , in which case, *The house₂ was built₂* is defined but false in w . It is now of course possible that in a context, whether or not the house in the plan will be/has been/might be/should be/was built is at issue. If whether there is an event of construction is at issue, *the house*, non-intensionalized, might fail to refer to any entity. This means that (57) is a viable partition of the context set:

$$(57) \quad \begin{array}{ll} \text{a.} & \left\{ \begin{array}{l} \text{ExH The house}_2 \text{ will be/has been/might be/should be/was built}_2, \\ \text{ExH The house}_2 \text{ won't be/hasn't been/couldn't be/shouldn't be/wasn't built}_2 \end{array} \right\} \\ \text{b.} & \text{Will the (planned) house be built?} \end{array}$$

The house as an individual concept also enables narrow focus on *the house*. The question congruent to is (58c).

$$(58) \quad \begin{array}{ll} \text{a.} & \text{The house}_{2F} \text{ was built}_2. \\ \text{b.} & \left\{ \begin{array}{l} \text{ExH The house}_2 \text{ was built}_2, \\ \text{ExH The garage}_2 \text{ was built}_2, \\ \text{ExH The pool}_2 \text{ was built}_2, \dots \end{array} \right\} \\ \text{c.} & \text{Which planned structure was built?} \end{array}$$

An explanation as to why modals, negation, and focus can make the intensionalized readings more accessible should be in place, but such an explanation might be outside the bounds of grammar and will concern psychological and cognitive factors. As a result, I will refrain from discussing that explanation in detail this paper.⁵ The sentence with an indefinite *A house was built* can be felicitous even without intensionalization. With narrow focus on *a house*, it is congruent to the question *What was built?* With narrow focus on *house*, it is congruent to the question *What kind of structure was built?* The crucial difference between the definite and the indefinite on the non-intensionalized reading is that the indef-

⁵I can offer some preliminary and speculative thoughts on this issue. For negation, because the non-intensionalized meaning is a contextual contradiction, the hearer is invited to seek alternative parses that might make the sentence felicitous and informative. Contrastive focus on the subject DP triggers an exhaustive reading, suggesting that alternatives to the subject DP are not built, which falls back to the negation case. Verum or polarity focus works in a similar way: a contextual tautology is asserted emphatically, and so the hearer is prompted to seek an alternative felicitous parse. For modals, it should not be very surprising that intensional embedding itself makes the selection of intensionalized lexical entries more likely.

inite does not presuppose the existence of a salient actually existing house. *A house was built* amounts to asserting the existence of an actually existing house, which is not contextually trivial.

3.2 Mandarin object topicalization

The argumentation for Mandarin internal topicalization will involve an empirical clarification. The empirical observation is that there are no instances of internal topicalization that is truly ungrammatical in all contexts, except those with contextually trivial meanings, just like in English passives. Rather, the licensing constraints on Mandarin object internal topicalization are those imposed by PARTITION-BY-EXH and the topicalization discourse template of Neeleman & van de Koot (2008).

(59) Topic₁ [Comment ... Focus ... —₁ ...]

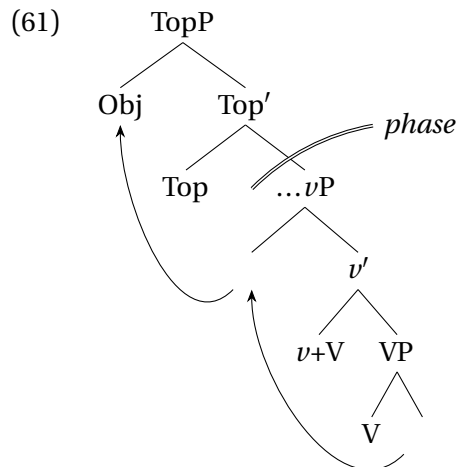
Intuitively, if topicalization always results in a structure as in (59), then apply the PARTITION-BY-EXH machinery will ensure that the topic is a shared component across each of the elements in the partition, because it is necessarily external to the focus. One can then obtain the result that the question is *about* the topicalized topic. What the template will do for us in that in the Mandarin Chinese topicalization cases, the possibilities for focus placement are dramatically reduced. The focus must be on an element that is in the c-command domain of the topicalized constituent, and also cannot be the topic itself.

3.2.1 Background

There are two kinds of positions that topicalization can target in Mandarin Chinese (Chen 2023), the TP-internal option right below the surface subject (60a), and the TP-external option in the left periphery (60b).

- (60) a. *TP-internal topicalization*
 [_{TP} Lisi [zhe-jian shi]₁ diaocha-le —_i]
 Lisi this-CL matter investigate-PFV
 ‘Lisi, this matter, investigated (it).’
 b. *TP-external topicalization*
 [zhe-jian shi]₁ [_{TP} Lisi diaocha-le —_i]
 this-CL matter Lisi investigate-PFV
 ‘This matter, Lisi investigated (it).’

Chen (2023) proposes that TP-internal topicalization involves successive-cyclic movement through Spec,*ν*P, as *ν* is assumed to be a phase head.



TP-internal topicalization show facilitator effects for both high and low facilitators in both finite and non-finite clauses. Facilitators on the path from Comp,V to Spec, ν P are called *low* facilitators. Facilitators on the path from Spec, ν P to Spec,TopP are called *high* facilitators. Examples (62)–(65) demonstrate high and low facilitator effects in both finite and non-finite clauses.

(62) Non-finite, high facilitators

a. temporal adverb

Lisi {*dasuan/bipo wo*} [*zhe-men ke* *(*ming-nian*) *xuan* ____].

Lisi plan force 1SG this-CL class next-year choose

‘*Lisi* planned/forced me to, this class, next year take (it).’

b. negation

Lisi {*dasuan/bipo wo*} [*zhe-men ke* *(*bu*) *xuan* ____].

Lisi plan force 1SG this-CL class NEG choose

‘*Lisi* planned/forced me to, this class, not take (it).’

(63) Non-finite, low facilitators

a. manner adverb

Lisi {*dasuan/bipo wo/changshi/yuanyi/keyi*} [*zhe-jian shi* *(*toutou*)

Lisi planned force 1SG try be.willing be.allowed this-CL matter secretly

diaocha ____].

investigate

‘*Lisi* planned/forced me/tried/was willing/was allowed to, this matter, secretly investigate (it).’

b. degree modifier

Lisi {*dasuan/bipo wo/changshi/yuanyi/keyi*} [*kafei* [*he-de* ____]]

Lisi plan force 1SG try be.willing be.allowed coffee drink-DE

*(_{[DegreeP} *de kuai yi-dian*]).

DE fast a-bit

‘*Lisi* planned/forced me/tried/was willing/was allowed to, coffee, drink (it) a bit faster.’

(64) Finite, high facilitators

- a. temporal adverb/negation
*Lisi kafei *(mei-tian /bu) he* ____.
 Lisi coffee every-day NEG drink
 'Lisi, coffee, every day/does not drink(s) it.'
- b. polarity focus
Lisi kafei HE ____, *naicha BU he* ____.
 Lisi coffee drink milk.tea NEG drink
 'Lisi, coffee, drinks; milk tea, doesn't drink.'

(65) Finite, low facilitators

- a. degree modifiers
*Lisi kafei [he-de ____] *([DegreeP ~~de~~ hen kuai]).*
 Lisi coffee drink-DE DE very fast
 'Lisi, coffee, drinks (it) fast.'

3.2.2 Adjunctless structures

Like in the case of English passives and middles, the original contrast in object internal topicalization, replicated in (66), is also dissolved when given the right context, or in other words, congruent to an appropriate question under discussion.

- (66) a. *Lisi kafei₁ mei-tian he* ____₁.
 Lisi coffee every-day drink
 'Lisi, as for coffee, drinks it every day.'
- b. **Lisi kafei₁ he* ____₁.
 Lisi coffee drink
 Intended: 'Lisi, as for coffee, drinks it.'

Consider the conversation in (67):

- (67) A: *Lisi kafei₁ he* ____₁ *ma?*
 L. coffee drink Q
 'Does Lisi drink coffee?'
- B: *Lisi kafei₁ HE* ____₁ (*a* / *de*).
 L. coffee drink DECL FOC
 'Lisi drinks coffee.'

(67B) is the same as (66b) except for the prosodic prominence on *he* 'drink' and optional addition of a sentence-final declarative particle *a* or a sentence-final focus particle *de*. The question (67B) is congruent to is already directly provided in the preceding question, (67A). Because (67A) is a polar question, we can essentially view (67B) as containing polarity focus, which is in the c-command domain of the surface topic, conforming to the topicalization template in Neeleman & van de Koot (2008).

- (68) *Lisi kafei₁ AFF_F drink* ____₁.

As AFF is an covert element which cannot realize the stress associated with focus, the latter is instead realized on the main verb *he* 'drink.'

The same kind of polar question for the adjunctless topicalization structures to be congruent to can also be made salient not through direct utterance but through a contrastive conjunction, as in (69a) and (69b).

- (69) a. *Lisi kafei₁ HE —₁, naicha₂ YE he —₂.*
 L coffee drink milk.tea also drink
 ‘Lisi, as for coffee, drinks it, and as for milk tea, also drinks it.’
 b. *Lisi kafei₁ HE —₁, naicha₂ BU he —₂.*
 L. coffee drink milk.tea NEG drink
 ‘Lisi, as for coffee, drinks it, but as for milk tea, doesn’t drink it.’

(69a) and (69b) are congruent to the family of questions: *Does Lisi drink coffee? Does Lisi drink milk tea? Does Lisi drink [insert another beverage]?* The second conjuncts make the family of questions easily retrievable.

Another kind of adjunctless object internal topicalization involves contrastive focus on the verb:

- (70) A: *ni zhe liang-zhong cai zenme chi?*
 2SG this two-kind vegetable how eat
 ‘How do you eat these two kinds of vegetables?’
 B: *wo zhe-zhong cai ZHENG_F, na-zhong cai CHAO_F.*
 1SG this-kind vegetable steam that-kind vegetable stir.fry
 ‘I, this vegetable, steam (it), and that vegetable, stir-fry it.’

Example (70B) is an answer to (70A), which can be explicitly paraphrased as the following questions: *How do you cook this vegetable? How do you cook that vegetable?* The topicalization template is clearly satisfied in (70) as the focused verbs are in the c-command domain of the surface topic.

As we saw in the analysis of passives in section 3.1, contextual tautologies can make it so that no focus placement could result in a partition of the context. While such contextual tautologies are easy to construct with verbs of creation and the created objects, it is harder with object topicalization because the agent is naturally present in object topicalization of a transitive sentence. However, adding additional modifiers on the object could result in contextual tautologies, and we predict such sentences to be infelicitous without an adjunct:

- (71) a. *Zhangsan gangbi xihuan, qianbi taoyan.*
 Z. fountain.pen like pencil hate
 ‘Zhangsan, as for fountain pens, like them, but as for pencils, hates them.’
 b. #*Zhangsan xihuan de gangbi xihuan, taoyan de qianbi taoyan.*
 Z. like DE1 fountain.pen like hate DE1 pencil hate
 Intended: ‘Zhangsan, as for fountain pens he likes, likes them, but as for pencils he hates, hates them.’
 c. *Zhangsan xihuan de gangbi xihuan de budeliao, taoyan de qianbi taoyan*
 Z. like DE1 fountain.pen like DE2 extremely hate DE1 pencil hate
de budeliao.
 DE2 extremely
 ‘Zhangsan, as for fountain pens he likes, likes them extremely, but as for pencils he hates, hates them extremely.’

Example (71a) is congruent to a family of questions, the first member of which asks about Zhangsan’s attitude towards fountain pens, and the second member of which asks about Zhangsan’s attitude towards pencils, and answers both questions informatively. Therefore, (71a) is predicted to be felicitous. In (71b), the questions congruent to are about the fountain pens that Zhangsan likes and the pencils that Zhangsan hates. However, (71b) is uninformative, as Zhangsan liking the fountain pens he likes and hating the pencils he hates are contextual (arguably also logical) tautologies. (71c) is a fix to (71b),

as *budeliào* ‘extremely’ provides the new information on the degree to which Zhangsan likes the fountain pens he likes and hates the pencils he hates.

3.3 Mandarin verb-doubling

The last domain to re-examine is verb-doubling in Mandarin Chinese. The empirical and theoretical background for verb-doubling in Mandarin Chinese is necessary for a discussion of the role of adjuncts in acceptability.

3.3.1 Background

In Mandarin Chinese, most adverbials must occur preverbally:

- (72) *Zhangsan zuotian / renzhen-de qi-le ma.*
Z. yesterday careful-ADV ride-PFV horse
‘Zhangsan rode the horse yesterday/carefully.’

There is a class of adverbials, frequency and durative phrases (FrP/DrP), that must surface post-verbally, with interchangeable positions with the direct object:

- (73) a. *Lisi qi-le wu-ci na-pi ma.*
L. ride-PFV five-time that-CL horse
‘Lisi rode that horse five times.’
b. *Lisi qi-le na-pi ma wu-ci.*
L. ride-PFV that-CL horse five-time
‘Lisi rode that horse five times.’

Additionally, there is a curious verb-doubling effect: each instance of the verb separately hosts the direct object and the frequency/durative phrase:

- (74) *Lisi qi na-pi ma qi-le wu-ci.*
L. ride that-CL horse ride-PFV five-time
‘Lisi rode that horse five times.’

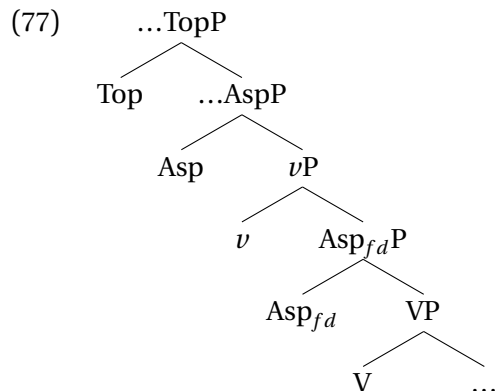
Such verb-doubling appears to be unavailable when the frequency/durative is not present:

- (75) **Lisi qi na-pi ma qi-le.*
L. ride that-CL horse ride-PFV
‘Lisi rode that horse.’

Compare (75) with the grammatical, non-verb-doubled version:

- (76) *Lisi qi-le na-pi ma.*
L. ride-PFV that-CL ma
‘Lisi rode that horse.’

For the structural assumptions, I follow almost exactly the proposal in Lai (2021), which also gives a syntactic account of the obligatoriness of adjuncts in verb-doubling. Lai (2021) is a general exploration of the Mandarin Chinese postverbal domain and proposes a fine-grained hierarchy of projections. The projections that are relevant for an account of the Adverbial Generalization are the following:



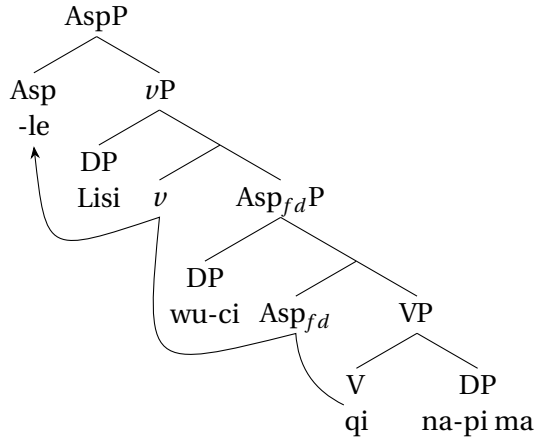
Top⁰ drives VP-fronting to its specifier, which is the derivational step responsible for verb-doubling.⁶ It is assumed to be not present if VP-fronting (verb-doubling) is not observed. Aspectual markers such as the perfective *le* are found in Asp⁰. *v*⁰ is responsible for introducing the external argument, a common assumption. It is also a phase; thus, extraction of and from the complement of *v* must therefore proceed through its specifier. Asp⁰_{fd} introduces frequency or durative adverbials such as *liang-ci* ‘twice’ or *wu-ge xiaoshi* ‘five hours’ in its specifier. V⁰ hosts the direct object in its complement. The projections are illustrated in the structure of the following example:

- (78) *Lisi qi-le wu-ci na-pi ma.*
 L. ride-PFV five-time that-CL horse
 ‘Lisi rode that horse five times.’

⁶Lai (2021) simply posits that a head of uncertain discourse function X projecting an XP in place of what I have labeled Top and TopP as he is not concerned with discourse and pragmatic effects of verb-doubling. An updated paper, Lai (2024), does away with any special projection hosting the moved VP and instead assumes that VP moves to Spec,AspP in Mandarin verb-doubling. He is even unsure that verb-doubling has any discourse effect like topichood at all, citing the following conversation as evidence:

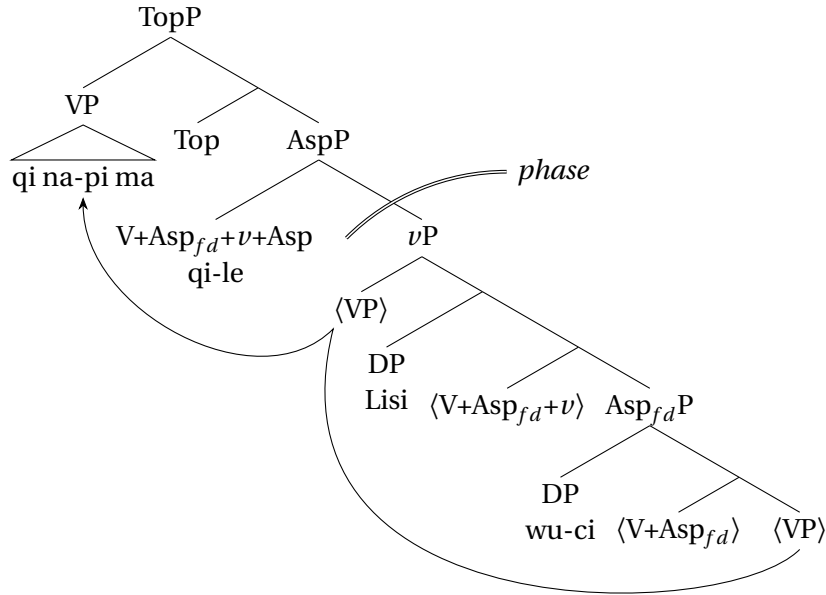
- (i) A: *wo zou-le yihou, fasheng-le shenme shi?*
 1SG leave-PFV after happen-PFV what matter
 ‘After I left, what happened?’
 B: *Zhangsan qi-le san-ci ma.*
 Z. ride-PFV three-time horse
 ‘Zhangsan horse-rode three times.’
 B’: *Zhangsan qi ma qi-le san-ci.*
 Z. ride horse ride-PFV three-time
 ‘Zhangsan horse-rode three times.’

Because (iA) does not support *horse-riding* as a topic, the felicity of (iB’) is used to indicate that *qi ma* is not topicalized. However, there is still a discourse-level contrast between (iB) and (iB’). (iB) seems to have provided an exhaustive answer to the question in (iA), i.e., Zhangsan riding the horse three times is the only thing that happened after A left. On the other hand, (iB’) invites A to believe that there are other activities that Zhangsan engaged in, with horse-riding one of them. It is more natural for A to follow up after (iB’) than after (iB) with the question *Zhangsan hai gan-le shenme?* ‘What else did Zhangsan do?’ I argue that this contrast between (iB) and (iB’) is exactly because verb-doubling involves topicalization of the verb phrase. In this case, *qi ma* is contrastively topicalized (Büring 2003, Constant 2014): (iB’) raises a family of questions, each of which is about an activity like horse-riding, and the information provided is how long or how many times the activity is engaged in by Zhangsan.



In his system, verb-doubling will have the following structure:

- (79) *Lisi qi ma qi-le wu-ci.*
 L. ride horse ride-PFV five-time
 ‘Lisi rode the horse five times.’



The VP first moves to the edge of vP -phase, and then to Spec,TopP. Thus, Lai (2021) basically analyzes verb-doubling as arising from internal topicalization of the VP. A separate process at the syntax-phonology interface based on Saab (2017) ensures that the verb is pronounced twice, once in the fronted VP, and once in its usual position in Asp^0 , which I will not detail here.

3.3.2 Adjunctless structures

Consider first the original contrast, repeated in (80):

- (80) a. *Lisi* [_{VP} *qi na-pi ma*]₁ *qi-le* {*liang-ci* / *san-ge* *xiaoshi*} —₁.
 Lisi ride that-CL horse ride-PFV two-time three-CL hour
 ‘Lisi rode the horse {twice/for three hours}.’

- b. **Lisi* [_{VP} *qi na-pi ma*]_I *qi-le* —_I.
Lisi ride that-CL horse ride-PFV
 Intended: ‘Lisi rode the horse.’

Example (80b) can in fact be used, as a response to a polar question with doubling:

- (81) A: *Lisi* [_{VP} *qi na-pi ma*]_I *qi-le* —_I *ma?*
Lisi ride that-CL horse ride-PFV Q
 ‘Has Lisi ridden the horse?’
 B: *Lisi* [_{VP} *qi na-pi ma*]_I *qi-le* —_I.
Lisi ride that-CL horse ride-PFV
 ‘Lisi has ridden the horse.’

This shows us that (80b) should not really be receive a judgment mark of ‘*’; instead, it should be ‘#,’ which indicates that it is uttered outside of a context that makes it felicitous. The contrast between (80a) and (80b) when both are uttered out of the blue, is simply due to a difference in the difficulty of reverse-engineering a context that supports the sentences. A simple rough explanation is that because adjuncts are syntactically optional, their inclusion signals pragmatic importance, and the reader is thus inclined to automatically assign focus to adjuncts. Then, by PARTITION-BY-EXH, a question that the sentence is congruent to is easily constructed and accommodated. On the other hand, to retrieve (81A) as the question that (81B) is congruent to, the reader needs to assign focus to the polarity, which does not explicitly correspond to any standalone overt material in the sentence, which is arguably more difficult than assigning focus to the adjunct. The polarity is the only choice for focus placement in the absence of adjuncts. Recall that because due the topicalization template, a focus must be located in the c-command domain of the topicalized constituent. The aspectual marker cannot be topicalized, as it is phonologically weak and cannot realized the prosodic prominence associated with focus. The lower copy of the verb also cannot be focused, as the focus alternatives triggered will be ill-formed.

- (82) Alternatives to ‘*Lisi* [_{VP} ride that horse] ride-PFV —_I’

$$\left\{ \begin{array}{l} \text{Lisi } [\text{VP ride that horse}]_I \text{ ride-PFV } \text{—}_I, \\ * \text{Lisi } [\text{VP ride that horse}]_I \text{ feed-PFV } \text{—}_I, \\ * \text{Lisi } [\text{VP ride that horse}]_I \text{ pet-PFV } \text{—}_I, \\ \dots \end{array} \right\}$$

The two copies of the verb are derived via movement from a single instance, and therefore must be the same lexical item. On the other hand, if the mechanism that generates alternatives for a focused constituent is revised so as to guarantee that all movement-related copies remain identical in the alternatives, then the topicalized phrase can vary with the lower copy of the verb, as in (83):

- (83)
$$\left\{ \begin{array}{l} \text{Lisi } [\text{VP ride that horse}]_I \text{ ride-PFV } \text{—}_I, \\ \text{Lisi } [\text{VP feed that horse}]_I \text{ feed-PFV } \text{—}_I, \\ \text{Lisi } [\text{VP pet that horse}]_I \text{ pet-PFV } \text{—}_I, \\ \dots \end{array} \right\}$$

In this case, the alternatives are grammatical, in that the movement-derived lexical identity between the two copies is preserved, but *ride that horse* can no longer be considered the topic, as it is not constant across the alternatives that make up the question. This discussion shows that there is no way to conform to all the constraints, most importantly, the template requirement of topicalization, narrow syntactic movement rules, and question-answer congruence via focus. Notice that (83A) also involves verb-doubling without any facilitators in the path of the movement, because *ma*, the polar question

particle, is usually taken to be a C head (Pan 2018, 2019, Zhang 2019). Standard cartographic considerations would also result in similar conclusions, as *ma* marks Force by forcing a polar question interpretation (Cinque 1999). In (83B), as *qi na-pi ma* ‘ride that horse’ is topicalized, the topicalization template demands that something be focused in its surface c-command domain. In this case, the focus is the polarity, and (83B) is congruent to exactly the polar question in (83A). In addition to the polar question, a parallel, contrastive structure also makes it easier to retrieve an appropriate question for (80b).

- (84) *Lisi* [_{VP} *qi ma*]₁ *qi-le* —₁, *danshi* [_{VP} *wei ma*]₂ *mei wei* —₂.
 L. ride horse ride-PFV but feed horse NEG.PFV feed
 ‘Lisi, as for riding the horse, rode it, but as for feeding the horse, didn’t feed it.’

The negation in the second conjunct makes it easier for polarity to receive focus in the first conjunct, making the question the first conjunct is congruent to more salient.

3.4 Possible extension: English middles

The re-examination of English middles will be less ambitious than that of the other empirical domains above, due to the existence of a class of overgeneration, as well as certain semantic and pragmatic distinction that cannot be made very precise. I will give an account of how the basic cases of infelicitous adjunctless middles follows from a similar approach to that used with English middles. I will then explain how the present approach predicts cases of felicitous adjunctless middles. Finally, I will highlight remaining overgeneration puzzles for the present approach.

First, I enumerate the semantic assumptions I adopt for English middles. I assume that middles always involve a circumstantial modal layer, a claim also made in Bruening (2024) in response to the same data below. This is similar to claims in the literature that have considered middles to involve ‘generic do-ability’ (Fellbaum 1986, Greenspon 1996), to require an underlying ability modal reading (Fagan 1992), and to ‘typically express a modal flavor of capability’ (Marelj 2004).⁷ I opt for the more general flavor *circumstantial* rather than the more narrow *ability*, as much of the literature on middles has employed, partly to accommodate cases where the interpretation cannot be cleanly described as pertaining to the inherent abilities or dispositions of the surface subject:

- (85) *Two identical sheets were washed together, but one was rolled inside the other resulting in different levels of cleanliness*
 Sheet #1 washed better than sheet #2. (Newman 2020)

Because the two sheets are identical, their inherent washabilities do not differ. However, we can still accurately paraphrase (85) as (86):

- (86) Sheet #1 **was able to be washed** better than sheet #2.

⁷There seem to be middle constructions for which a circumstantial modal interpretation is difficult to argue for, which involve psych-verbs like *startle* or *spook*:

- (i) a. %Chris startled. (Greenspon 1996)
 b. %The horse spooked. (Greenspon 1996)
- (ii) Every moment everyone felt fear, nameless and omnipresent. They were as jumpy as men in a plague district. Any sudden sound, any unexplained footstep, any unfamiliar script on an envelope, **made them startle**... [Sinclair Lewis. *It Can't Happen Here* (1935), p. 197] (Greenspon 1996)

I concede that these cases could be due to these verbs developing a new argument structure, i.e., they have acquired unergative uses for those who can accept these examples.

Here, *was able to* clearly corresponds to the circumstantial modality. The actuality entailment of *be able to* under the perfective ensures that (86), similar to (85), describes actually realized washing events.

(87) John was able to cut the bread. $\sim$ John actually cut the bread.

With the semantics of middles in place, we can now see that the basic unacceptable cases of English middles can also be explained via the exhaustified focus alternatives failing to partition the context. Take (88) for example:

(88) #The book reads.

The book reads then could be paraphrased as something like *The book is able to be read*, which is a contextual tautology, because it is a book's inherent property that it is capable of being read, and no focus placement could result in a partition of the context. Discussions in section 3.1.1 have shown that when the sentence is a contextual tautology, PARTITION-BY-EXH cannot be satisfied because the alternatives triggered cannot be mapped to a partition of the context. The same reasoning applies to *The book reads* as well. When an adjunct is added, resulting in for example,

(89) The book reads easily.

there is no longer a contextual tautology, and there is a focus placement, i.e., on *easily*, that results in a good question/partition, i.e., *How does the book read?* The same explanation extends to *The bread cuts* #(easily), *Greek translates* #(easily), *The car handles* #(well), etc. There is a contrast between *read* and *cut*, where *read* seems incompatible with a high facilitator (modal/negation/polarity focus) in (90), but *cut* does (Newman 2020) in (91).

(90) a. #The book doesn't read.
b. #The book didn't read.
c. #The book does read.
d. #The book will/might/can read.

(91) a. The bread doesn't cut.
b. The bread didn't cut.
c. The bread did cut.
d. The bread will/might/can cut.

If both *The bread cuts* and *The book reads* are odd because their paraphrases *The bread can be cut* and *The book can be read* are contextual tautologies, then we predict that the examples in (91) should also be odd, due to being either contextual tautologies or contradictions. I argue that the difference lies in how deeply entrenched the ability is. On one hand, it is definitional of books that they can be read; *The book reads* is tautological in basically every context that is compatible with common sense and constrained by a basic understanding of the meaning of *book*. On the other hand, that bread can be cut is merely prototypical; *The bread cuts* is tautological in only prototypical contexts.⁸ By using a modal, which canonically involves quantification over a set of worlds accessible from the world of evaluation, i.e., a modal base, worlds deviating from the prototypical might be considered, and therefore, the sentence is no longer tautological. By using negation, a contradiction is derived in prototypical contexts, and so the interlocutors are signaled to expand the context to a more inclusive one, in which case *The bread doesn't cut* is no longer contradictory but provides a piece of surprising information about the bread, i.e., that it cannot be cut. Notice that neither of the two moves would save *The book reads*, for the simple reason that being able to be read is such a fundamental property of books that it is extremely difficult if not impossible to accommodate a context or access a modal base which does not entail that books can be read. Then, *The book will/might/can read* remain tautological, and *The book doesn't/didn't read* remain contradictory, and therefore both infelicitous.⁹

⁸This distinction between *definitional* and *prototypical* is the distinction that I referred to as being difficult to make precise in the introduction of this section on English middles.

⁹There seems to be some tension between the acceptability of describing a book as *unreadable* when it is densely or poorly

3.4.1 Predicting adjunctless middles

Some middles do not require overt facilitation:

- (92) a. This dress buttons. (Newman 2020)
b. Glass recycles. (Newman 2020)
c. Salman Rushdie's novel sells. (Fellbaum 1986)

These can be explained because none are contextual tautologies; (92a) gives a good partition with narrow focus on *buttons*; (92b) and (92c) can give good bipartitions with foci on the polarity. (92a) can correspond to a question about how the dress can be put on and fastened. (92b) can correspond to a question about whether glass can be recycled. (92c) can correspond to a question about whether Salman Rushdie's novel can sell to a sufficiently large amount.¹⁰

There is a revealing contrast between (92a) and (93):

- (93) #This dress fastens. (Fagan 1988)

Button and *fasten* differ minimally in that *button* specifies the manner of fastening. It is basically common sense and therefore a contextual tautology that a dress can be fastened, in one way or another, and therefore, (93) is infelicitous. In this case, an adverbial providing additional information can come to the rescue, as in (94):

- (94) This dress fastens easily. (Fagan 1988)

There are other examples of adjunctless middles scattered across the literature. I believe to the extent they are acceptable, they are all intuitively informative in common-sense contexts.

- (95) a. These bureaucrats bribe. (Ackema & Schoorlemmer 1994, Goldberg & Ackerman 2001)
b. This silk washes. (Lekakou 2005)
c. *Where do we enter the secret passageway?* The bookshelf opens. (Goldberg & Ackerman 2001)
d. This_F bread cuts. (Hale & Keyser 1987)
e. Well, it cranks. It cranks hard. *about the film winder (advancer) on a camera, just after putting film in* (Greenspon 1996)
f. Now this car HANDLES. (McConnell-Ginet 1994)

written, and my idea that it is fundamental property of books that they can be read, as suggested to me by Elise Newman (p.c.). What I would like to suggest is that *unreadable*, or *readability* in general, as applied to books, is a separate property from whether the book can in principle be read. *Readability* is always about the ease or enjoyment of reading, rather than the mere ability of a book to be read. In fact, being unreadable still presupposes that the book can be read: one needs to start reading the book, and then form an opinion that the book is unreadable.

¹⁰There must be lexical-conceptual differences between *read* and *sell* in that *read* by itself cannot have a reading where it means 'the reading is to a sufficient large degree of easiness or pleasure.' I conjecture that this is due to *sell* being conceptually connected with prices and amounts, which have associated scales and degrees, and therefore makes available the degree reading, while *read* is not associated with such scales and degrees. This is also related to the discussion in footnote 9, where I suggest that *read* by itself does not refer to the measurement of ease or enjoyment of reading. Although, it appears that sometimes the degree interpretation of *read* can be obtained, licensing *read* in a middle without low adverbials:

- (i) Adapted from Stalmaszczyk (1993):
a. Modernist literature simply doesn't read.
b. Conrad is a great stylist, he does read!

However, based on consultations with a native speaker (Elise Newman), there is doubt as to whether (ia-b) are really acceptable.

- (96) McConnell-Ginet (1994)
 A: Does this dress wash?
 B: This dress washes.
- (97) A hungry lion came across two men in the jungle. One was reading a book and the other was writing a book. The man reading the book was quickly devoured while the writer was ignored. Even a lion knows that **readers digest** and that writers cramp. (Cortés-Rodríguez & Usón 2013)

3.4.2 Remaining puzzles

As the present account is fundamentally pragmatic, it predicts sensitivity to semantic properties of the surface subject. For example, because *The book reads* is infelicitous on the present account due to books being able to be read almost by definition, it is predicted that adding modifiers to the subject which remove the definitional properties should make the sentence felicitous. However, the relevant sentences still seem to be marginal:

- (98) ?Surprisingly, the badly crumpled book reads!
 (99) ?Surprisingly, the fake book reads!
 (100) ?Surprisingly, this newly rediscovered book by James Joyce reads!
 (101) ?For me, this book by James Joyce reads.

My conjecture is that it is difficult to overcome the definitional property of books, i.e., their readability, simply via linguistic manipulations, but I do leave this issue as open and to be dealt with in future research.

3.5 Interim summary

In section 3, I have re-examined cases of seemingly obligatory occurrences of adjuncts across English passives and middles, as well as Mandarin Chinese object and VP topicalization. I have argued that all patterns can be explained given the present proposal based on questions-answer congruence, implemented with Partition by Exhaustification, except for cases of unacceptable adjunctless English middles which cannot be saved by tautology-removing modification on the subject.

In section 4, I will discuss in detail the approaches to obligatory adjuncts in English middles and Mandarin Chinese object and VP topicalization based on the syntactic constraint of anti-locality and the challenges they face.

4 Anti-locality approaches

In this section, section 4.1 introduces the various conceptions of anti-locality; section 4.2 introduces the anti-locality account of English middles in Newman (2020) and its shortcomings; section 4.3 introduces the anti-locality account of Mandarin object topicalization in Chen & Yip (2024) and its conflicting assumptions with Newman (2020); section 4.4 discusses the problems of the common assumptions on aspectual projections that Newman (2020) and Chen & Yip (2024) rely on; and finally, section 4.5 introduces and critiques the anti-locality account of Mandarin verb-doubling in Lai (2021).

4.1 Different conceptions of anti-locality

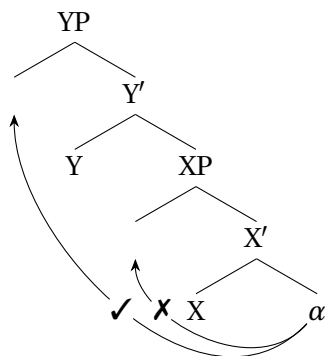
I will begin with an overview of the different conceptions of the anti-locality constraint employed in the literature. Adapting the presentation in Chen & Yip (2024), there are two conceptions postilion-based anti-locality:

(102) *Comp-to-Spec anti-locality*

Movement of a phrase from Comp,X must cross a head other than X.

~ Rules out movement from Comp,X to Spec,XP.

~ Allows movement from Comp,X to Spec,YP, crossing Y.

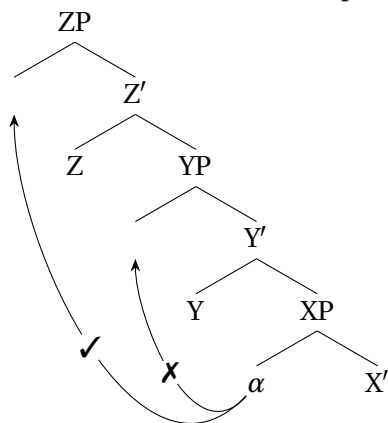


(103) *Spec-to-Spec anti-locality*

Movement of a phrase from Spec,XP must cross a maximal projection other than XP.

~ Rules out movement from Spec,XP to Spec,YP.

~ Allows movement from Spec,XP to Spec,ZP, crossing YP (also Z).



Newman (2020) proposes a unified crossing-based definition of anti-locality, under which both Comp-to-Spec and Spec-to-Spec can be subsumed, and employs it for the analysis of English middles.

(104) Crossing-based anti-locality

- Anti-locality*: A moving constituent α must cross a constituent distinct from the closest X^0 that c-commands it.
- Crossing*: Movement from a position α to a position β crosses a constituent γ if γ asymmetrically c-commands α but not β .

Chen & Yip (2024) argues that Mandarin internal topicalization of objects supports a unified crossing-based view of anti-locality, conditioned by the Principle of Minimal Compliance.

Lai (2021) argues that Mandarin VP-fronting supports a position-based view of anti-locality, i.e., Comp-to-Spec anti-locality of Abels (2003).

4.2 English middles: Newman (2020)

Although my proposal does not provide a full account of English middles, there are still issues with the anti-locality account that I would like to cover. Additionally, I discuss the system in Newman (2020) for English middles first for illustrative purposes, because the account of Mandarin object topicalization by Chen & Yip (2024) builds on the system in Newman (2020).

4.2.1 The account

On top of the crossing-based anti-locality, Newman proposes that English middles involve successive-cyclic movement through Spec, *v*P. Newman (2020) aims to account for the different behavior of three classes of verbs: verbs that admit either a high or a low facilitator, verbs that admit only a low facilitator, and verbs that require both facilitators.

(105) Either high or low facilitator works

- | | | |
|----|---|-------------------------|
| a. | The bread cut easily/quickly/like molasses. | ✓ <i>Low adverb</i> |
| b. | The bread should/might/will cut. (...I thawed it yesterday) | ✓ <i>Modal</i> |
| c. | The bread didn't cut. | ✓ <i>Negation</i> |
| d. | A: I told you it would be hard to cut bread with a fork.
B: But the bread DID cut! | ✓ <i>Polarity focus</i> |

(106) Only low facilitator works

- | | | |
|----|--|-------------------------|
| a. | The book reads easily/quickly/like a play. | ✓ <i>Low adverb</i> |
| b. | *The book should/might/will read. | * <i>Modal</i> |
| c. | *The book doesn't read. | * <i>Negation</i> |
| d. | A: I told you, books are for using as pillows, not reading!
B: But the book DID read! | * <i>Polarity focus</i> |

(107) Need both high and low

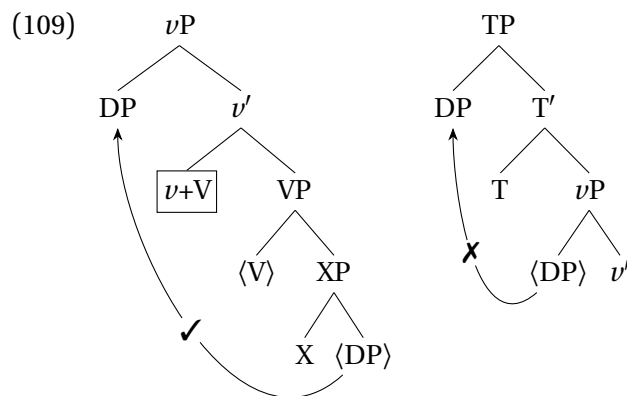
- | | |
|----|---------------------------------------|
| a. | *Those diamonds steal easily. |
| b. | *Those diamonds don't steal. |
| c. | ?Those diamonds don't steal easily. |
| d. | *Roger Federer defeats easily. |
| e. | *Roger Federer doesn't defeat. |
| f. | ?Roger Federer doesn't defeat easily. |

In addition, direct objects, depending on the class of the verb, might either be directly taken as the complement by V (Class 3), or be further embedded in one of two ways (Class 1 and Class 2).

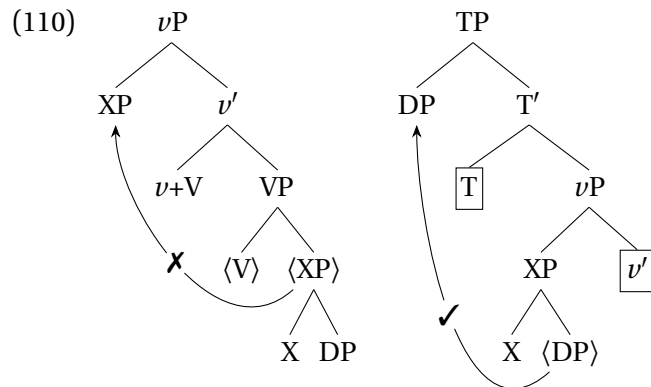
	Class 1	Class 2	Class 3
structure	VP / \ V XP / \ X DP / \ / Obj	VP / \ V XP / \ DP X' / \ / \ Obj X YP	VP / \ V DP / \ / Obj
necessary facilitation	high or low	low	both high and low

Now, we break down the situation for each verb class.

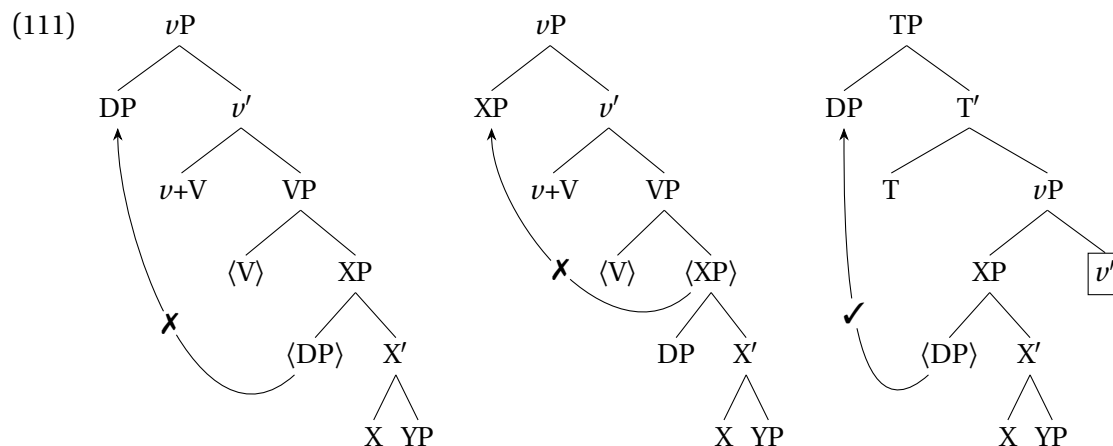
Class 1 In the first verb class, if we move just the DP object to Spec, ν P, the movement crosses $V+\nu$, which is distinct from the closest c-commanding head X, and so anti-locality is obeyed. Only the second movement step needs a facilitator.



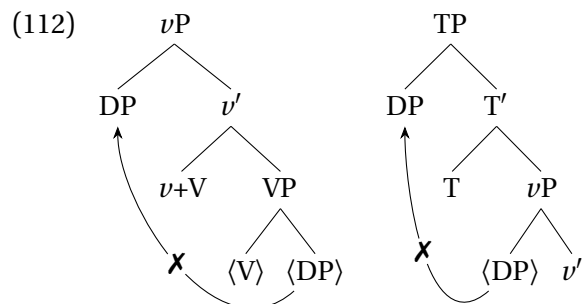
If instead we choose to move the entire XP to Spec, ν P, this first step will require facilitation. However, the second movement step no longer requires a facilitator, because now the DP object alone can be moved, and it crosses T and ν' , which are distinct from the closest c-commanding head X. Note the definition of crossing is satisfied by ν' : ν' asymmetrically c-commands the DP object when XP is in Spec, ν P, and the DP object asymmetrically c-commands ν' when it has moved to Spec,TP.



Class 2 In the second verb class, moving either just the DP or the entire XP to Spec, ν P violates anti-locality, because it does not cross any constituent distinct from the closest c-commanding head, $V+\nu$. Thus, a low facilitator is obligatory. However, moving the entire XP to Spec, ν P removes the need for a high facilitator, because now the DP object alone can be moved, which involves the crossing of ν' , which is distinct from the closest c-commanding head, T.



Class 3 In the third verb class, both movement steps require a facilitator:



4.2.2 Issues

Felicitous examples without facilitators There are many cases of English middles without overt facilitators. Newman (2020) recognize the following examples in a footnote:

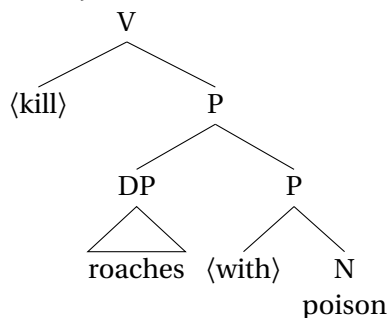
- (113) a. This dress buttons. (Newman 2020)
 b. Glass recycles. (Newman 2020)

The explanation offered there is that in such examples, the verb seems to be contrastively focused, and following most semantic approaches to focus, a focus-sensitive operator is covertly present to enable the interpretation of focus. It is claimed that the focus-sensitive operator can serve as a facilitator for anti-locality purposes. This means for that the examples in (113), an operator needs to be somewhere along the path of the two movement instances. There is some support for this idea, as if we would like to insert an overt focus-sensitive operator like *only* that associates with the verb into the examples, we obtain the following:

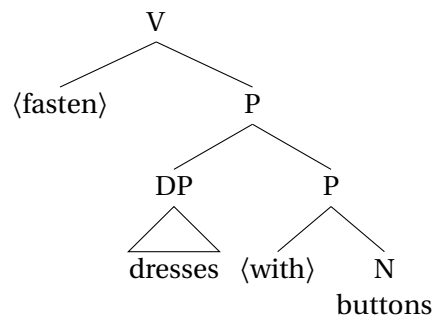
- (114) This dress **only** buttons_F.

Judging by the surface position of *only*, the covert focus-sensitive operator should be a high facilitator, which facilitates the movement from Spec, *v*P to Spec, TP. However, the issue is that *button* should suggest an argument structure akin to *poison*, which according to Newman (2020), following Hale & Keyser (2002), embeds the object as a specifier of XP:

- (115) VP of *poison*



- (116) VP of *button*



Newman (2020) then predicts that middles with *button* should require a low facilitator; a lone high facilitator is not predicted to license a middle.

Further, there are other examples without overt facilitators where the focus-sensitive operator is unlikely to be on the path of either movement instance. Take (117):

- (117) *How do we enter the secret passageway?* [The bookshelf opens]_F (not in the sense that the bookshelf regularly or habitually opens spontaneously, which corresponds to an unaccusative, but in the sense that the bookshelf is able to be opened if pushed, which corresponds to a true middle interpretation) (adapted from Goldberg & Ackerman 2001)

In (117), there is no contrastive focus of the verb *open*; rather the sentence is under broad focus, as the entire sentence conveys the answer to the question raised in the context. If we try to use an overt strategy to convey the focus, we see that the cleft structure surrounds the entire constituent *the bookshelf opens*:

- (118) It is because the bookshelf opens that one is able to enter the secret passageway.

Thus, examples of this sort casts doubt on the claim that a covert focus-sensitive operator could serve

as the facilitator whenever no overt facilitator is observed.

It should be recognized that surface position is only a heuristic for distinguishing high and low facilitators. If *only* is in Spec, ν P, then potentially the moving DP could target a higher specifier of ν P and *only* might serve as a low facilitator. However, there is reason to believe that this is not the case. Consider the interpretation of the sentence *This dress only buttons* with respect to the scope of the circumstantial modality and the exclusive meaning of *only*. It seems clear that *This dress only buttons* entails that it cannot be buttoned any other way, i.e., *only* > *can*. This would suggest that *only* is indeed outside of ν P and can only serve as a high facilitator.

Moreover, if contrastive focus alone (as in *This dress buttons*) can supply a low facilitator, then the explanation for the infelicitous cases like #*The book reads* or #*The bread cut* essentially must shift to one based on the felicity of focus placement and contextual redundancy, much like my own proposal for middles. Because one needs to explain why putting contrastive focus on *reads* or *cut* is not an available rescue strategy for these sentences.

Finally, prominent approaches from theories of implicatures (Magri 2009, 2011, Doron 2024, Wehbe 2022) also require that covert focus-sensitive operators be inserted at every scope site, and if they count as facilitators, then anti-locality might be always satisfied, as phrasal movement almost invariably creates and therefore crosses scope sites.

for-phrases fail to facilitate The account developed by Newman (2020) predicts that *for*-phrases can serve as facilitators in middles, such as the one in (119):

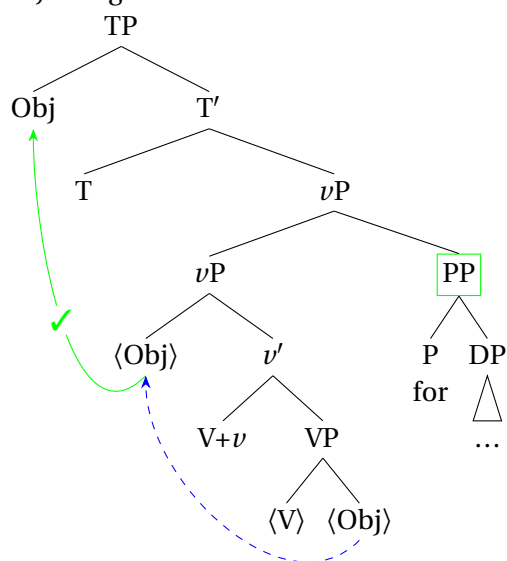
(119) The book reads like a charm **for me**.

Quantificational subjects can bind into *for*-phrases, which means that their base attachment positions are no higher than T':

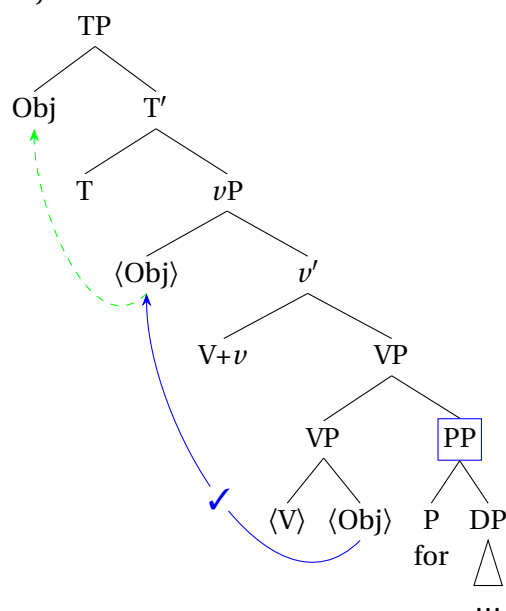
(120) Each₁ of these books must read like a charm for its₁ author.

Depending on the exact analysis of *for*-phrases, they can either serve as high or low facilitators:

(121) *for*-phrase adjoins to ν P (or equivalently T') as high facilitator



(122) *for*-phrase adjoins to VP (or equivalently ν') as low facilitator



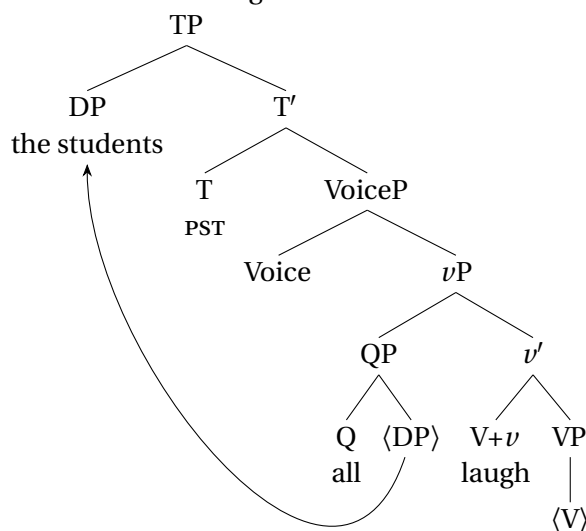
However, it seems that *for*-phrases cannot serve as facilitators independently, whether the facilitator in need is low or high. Compare (123) with (124):

- (123) a. #The book reads for me.
b. #The bread cut for me.
- (124) a. The book reads like a charm for me.
b. The bread cut easily for me.

My approach based on question-answer congruence can explain, because adding a *for*-perspective does not eliminate the tautological nature of sentences in (123): *for me*, φ is contextually tautological if φ itself is contextually tautological.

Floating quantifiers Newman (2020) crucially relies on the assumption that objects can be further embedded in XP shells, which can be stranded and provide facilitation for one of the steps of movement via Spec, ν P to Spec, TP. Another prominent construction which involves a similar mechanism is floating quantifiers. Here I adopt the canonical analysis in (Sportiche 1988).¹¹

- (125) The students all laughed.

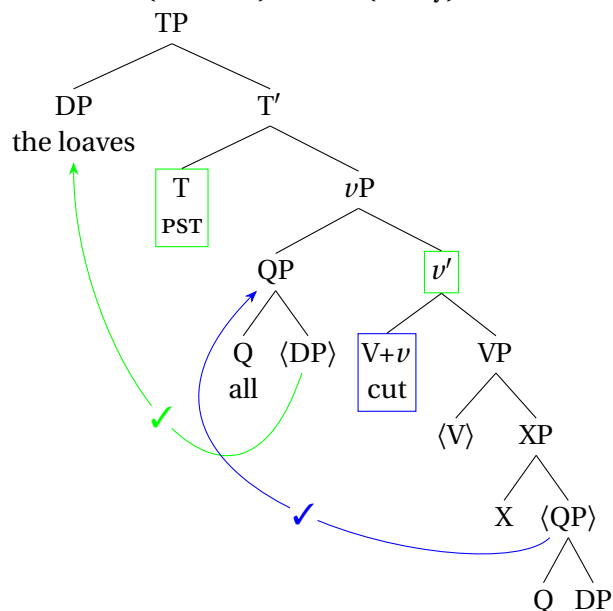


If floating quantifiers are analyzed in this canonical way, then we predict that the QP can provide an additional shell to strand, providing additional facilitation for Spec, ν P to Spec, TP movement. Notice that it cannot be the case that if there are QP layers, then the original XP layers should be replaced; this is because by the assumptions of Newman (2020), the XP layers come from the lexical decomposition of the verbs and should be orthogonal to the quantificational structure of the actual object. This predicts that floating quantifiers can serve as facilitators. In particular, for class 1 verbs, it is predicted that no other facilitator is needed as long as there is a floating quantifier. For class 2 verbs, it is predicted that a high facilitator like a modal suffices to license the middle construction. I will now illustrate how each of these predictions are not borne out.

The class 1 verb *cut* cannot be facilitated in a middle just by a floating *all*:

¹¹There are arguments in Fitzpatrick (2006) that only $\bar{A}$ -movement truly strands quantifiers in this way, while floating quantifiers need to be independently licensed as adverbs in A-movement. This concern is valid, but the point against the anti-locality approach Newman (2020) stands regardless of the analysis adopted for floating quantifiers, as will be shown below.

(126) The loaves (of bread) all cut *(easily).

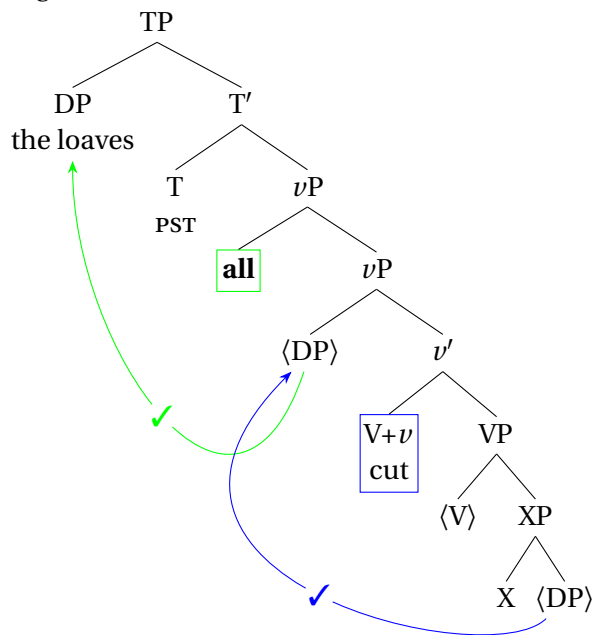


There is no relevant test to perform for class 2 verbs like *read*, because *all*, for independent reasons, cannot be stranded in the base position; a separate low facilitator is still predicted to be necessary.

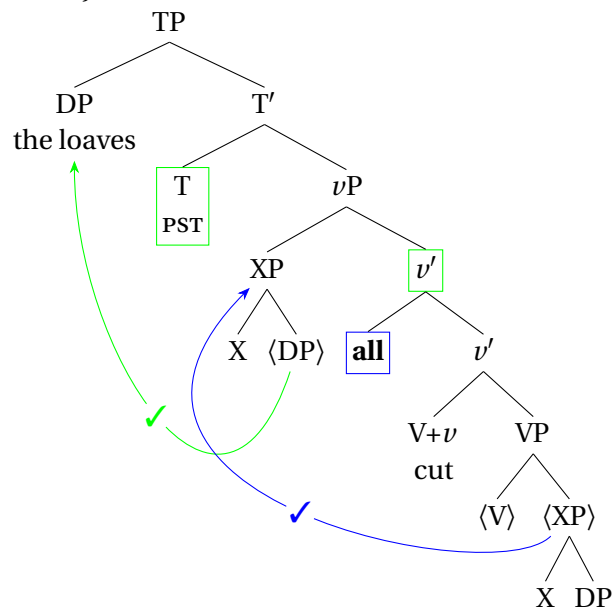
(127) The books (all) read (*all) *(like a charm) (*all).

One might think that adopting a different analysis of floating quantifiers, for example, one where they are base-generated adverbs rather than quantifiers that originate as sisters of DPs, seen in Kayne (2006) among others, can resolve the problem at hand. However, a base-generated adverb should just be able to serve as a high or low facilitator (depending on the exact position in an appropriate analysis), so (126) without *easily* would still be predicted to be grammatical:

(128) *all* adjoins to νP (or equivalently, T') as high facilitator



(129) *all* adjoins to ν' as low facilitator



My account can predict that the addition of quantifiers like *all* do not make the infelicitous examples felicitous, because if for each individual x in a set X , $\varphi(x)$ is a contextual tautology, then $\forall x \in X. \varphi(x)$ is also a contextual tautology.

Condition on Extraction Domain Newman (2020) employs further embedding of the object DPs in either the specifier or the complement position of an XP as the complement of the lexical verb to explain the differences in which facilitators are required. A crucial component of the account lies in the ability of the object DP to pied-pipe the entire XP to Spec, νP and then be sub-extracted from the XP to Spec,TP to avoid the need of the higher facilitator. However, this second step violates a well-established constraint on movement: Condition on Extraction Domain (CED), which forbids sub-extraction from specifiers (Huang 1982, Uriagereka 1999, Johnson 2003, Müller 2010, Privoznov 2021). Not only are CED effects empirically well-attested, they are also likely theoretically overdetermined, as evidenced by the number of independent theoretical derivations mentioned above. Newman (2020) makes no mention of the CED and therefore does not provide an explanation as to why no CED effects are observed in middles.¹²

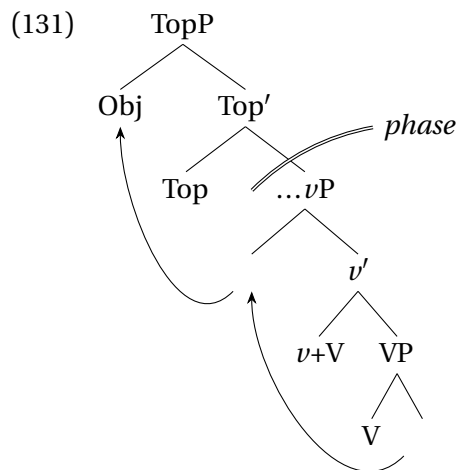
4.3 Mandarin object topicalization: Chen & Yip (2024)

4.3.1 The account

Recall that Chen & Yip (2024) proposes that the object undergoes successive-cyclic movement via Spec, νP to Spec,TopP.

¹²While the canonical analysis of floating quantifiers also involve CED-violating movement of the DP out of the QP, and has been cited as evidence against the crossing-based anti-locality account for English middles, I have shown that even if we take an analysis that does not involve sub-extraction from a specifier, i.e., the adverbial analysis, there is still a challenge for the anti-locality-based account of English middles.

- (130) *TP-internal topicalization*
 [TP Lisi [zhe-jian shi]₁ diaocha-le —_i]
 Lisi this-CL matter investigate-PFV
 ‘Lisi, this matter, investigated (it).’



Step 1 could violate Comp-to-Spec anti-locality; step 2 could violate Spec-to-Spec anti-locality. Crossing-based anti-locality (Newman 2020) can unify the two cases. Additionally, PMC (132) is motivated since as long as one of the chains satisfies anti-locality, the derivation converges.

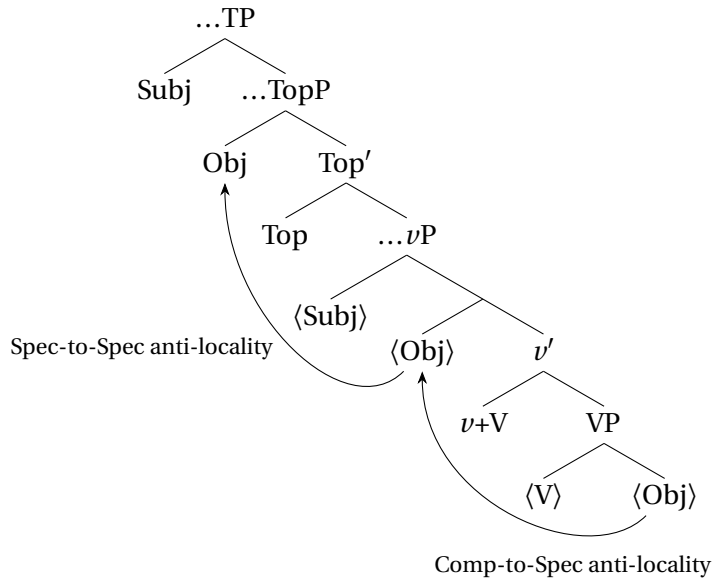
- (132) *Principle of Minimal Compliance* (Richards 1998)
 For any dependency D that obeys constraint C , any elements that are relevant for determining whether D obeys C can be ignored for the rest of the derivation for purposes of determining whether any other dependency D' obeys C .

Chen & Yip (2024) also follow Newman (2020) in assuming that head movement reduces the number of heads distinct from the moving head, in the following way:

- (133) If a head X moves to a head Y , and X was the closest element that c-commanded an object ZP , then Y is no longer distinct from X that c-commands ZP for purposes of crossing-based anti-locality.

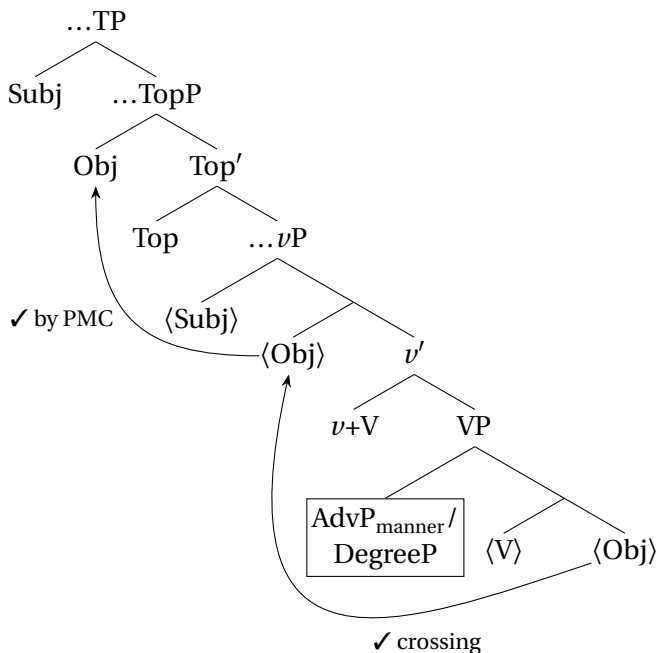
Then, we can see an illustration of why the two links of the internal topicalization chain are subject to the restrictions of crossing-based anti-locality.

(134)

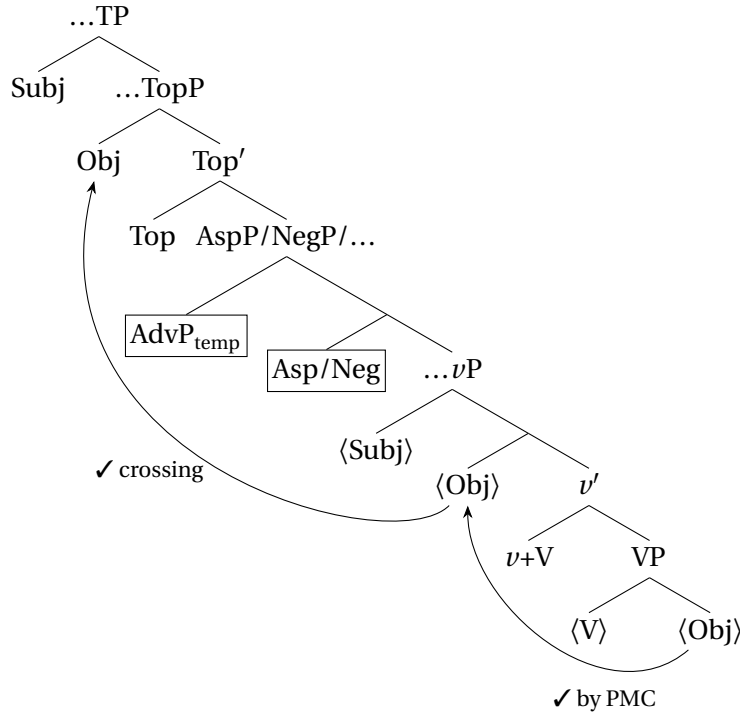


When at least one of the links of the chain has a facilitator, anti-locality under the PMC is satisfied. To make sure that both links require a facilitator, the trace of the subject in Spec, ν P is stipulated not to be a viable facilitator, even though in the copy theory of movement, it is no different from other viable facilitators, except that it is silenced via chain reduction. This stipulation is not needed by Newman (2020), nor does it follow from the definitions of anti-locality proposed there and restated here. Below are illustrations of anti-locality satisfaction; facilitators are marked with boxes.

(135) Low facilitators



(136) High facilitators



Some elements have the semblance of another kind of facilitator, but fail to license internal topicalization:

(137) resultative

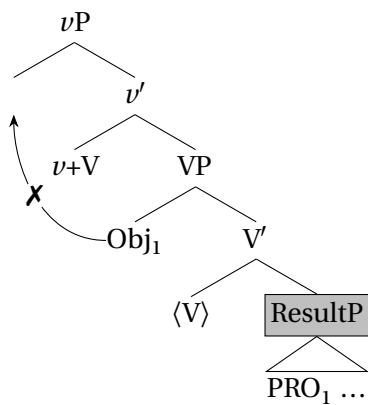
Lisi {*dasuan/bipo wo*} [*na-ge haizi₁ ma-de* — [_{ResultP} *de* PRO₁ *da ku*]].

Lisi plan force 1SG that-CL child scold-DE DE loudly cry

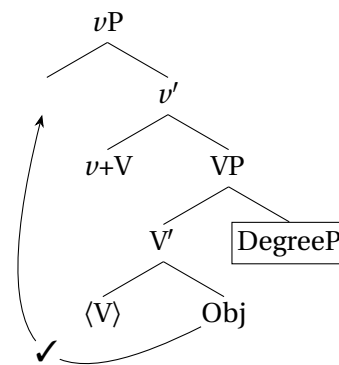
‘Lisi planned/forced me to, that child, scold (him) as a result of which (he) would cry loudly.’

It is then argued that ResultP, a non-facilitator, is c-commanded by the object, while DegreeP, a facilitator, c-commands the object.

(138)



(139)



This, however, is incorrect; as soon as the resultatives are a predicate of the subject rather than the object, they become facilitators:

(140) *wo₁ na-pi ma qi-de* — [_{ResultP} *de* PRO₁ *hen lei*].

1SG that-CL horse ride-DE DE POS tired

‘I, that horse, rode so as to become tired.’

There seems to be an independent constraint of an unknown character that forbids the internal topicalization of the object when the resultative is a predicate of the object. Note that in this case, if we insist on fronting the object, the *ba*-construction is used:

(141) (137) fixed with *ba*

Lisi {*dasuan/bipo wo*} [*ba na-ge haizi₁ ma-de* — [_{ResultP} *de* PRO₁ *da ku*]].
 Lisi plan force 1SG BA that-CL child scold-DE DE loudly cry
 ‘Lisi planned/forced me to, that child, scold (him) as a result of which (he) would cry loudly.’

4.3.2 Conflicting assumptions with Newman (2020)

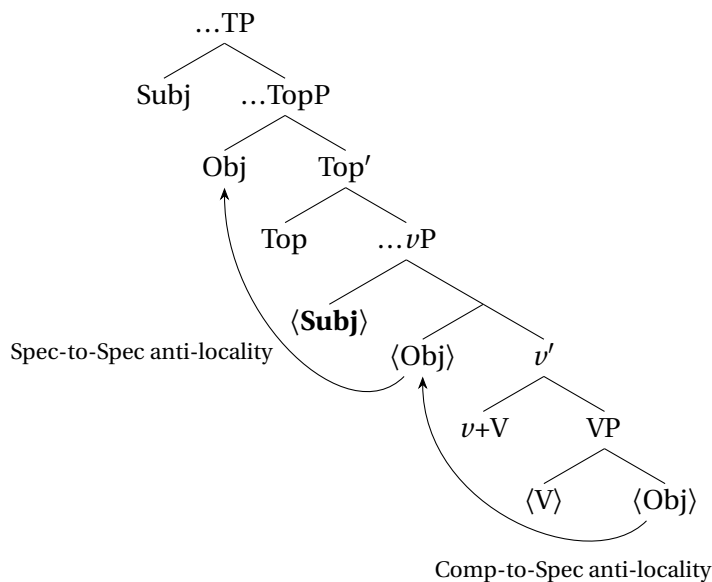
The Principle of Minimal Compliance While both Chen & Yip (2024) and Newman (2020) utilize the latter’s crossing-based conception of anti-locality along with an idea of distinctness that is conditioned by head-movement, there are several important differences in the auxiliary assumptions made.

Because it is untenable to assume that the direct objects of different verbs are differently embedded, and because just one facilitator regardless of being high or low is always sufficient for licensing internal topicalization, the Principle of Minimal Compliance (PMC) is required to obviate anti-locality violations in one of the two movement instances.

It is immediately clear that the PMC cannot be assumed for English middles from the perspective of Newman (2020), as one of the two things will happen: 1) If direct objects are still often further embedded, then the PMC along with the embedding shells will be able to obviate anti-locality violations for both movement instances, predicting that none of the further embedded objects require facilitators in forming middles, 2) If direct objects are no longer have the possibility of being further embedded, then the PMC predicts that English middles will behave just like Mandarin Chinese object internal topicalization in that just one facilitator either high or low will always result a grammatical structure, contrary to the claims in Newman (2020).

Traces as facilitators Because Spec,TopP is structurally higher than Spec,νP, where the subject the is base-merged, the trace of the subject is stipulated to not serve as a facilitator for the movement of the object from another Spec,νP to Spec,TopP.

(142)



Otherwise, the trace of the subject in νP will obviate the anti-locality violation in the upper movement instance.¹³ If the PMC is still in place, then it is predicted that object topicalization will never incur an anti-locality violation overall. If the PMC is abandoned, then it is predicted that object topicalization will uniformly require a low (or high, if the object moves to the higher specifier of νP) facilitator, contrary to observations made in (Chen & Yip 2024). There are a few potential ways to state the requirement that the subject trace cannot serve as a facilitator more precisely; two of the most salient are the following:

- (143) a. Facilitators must be overt at surface.
b. All segments of a constituent must be crossed for it to serve as a facilitator.

(143a) is untenable because both Chen & Yip (2024) and Newman (2020) require covert focus-sensitive operators to serve as facilitators. We will see that (143b) is also untenable due to the possibility of moving the adverbial in a grammatical English middle sentence. In the anti-locality-based analysis of English middles, traces of the adverbial adjunct must be able to serve as a facilitator for the movement of the object to Spec, νP , due to the grammaticality of examples of the following forms:

- (144) a. I like the way OP₁ the book reads __₁.
b. I like how₁ the book reads __₁.
(145) How well₁ will it wear __₁? (Greenspon 1996: pp. 148)
(146) Twin Cities Tire is for those who are serious about **how₁ their car rides** __₁. (Greenspon 1996: pp. 146)

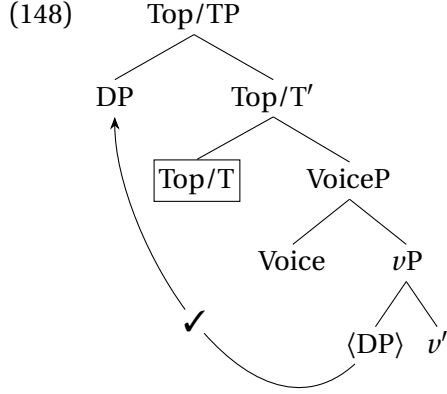
This means that (143b) cannot be uniformly adopted for anti-locality-based accounts, because in the last three examples, the surface subjects of the middle constructions certainly have not crossed the final segment of the facilitator (OP or *how*), which is in Spec,CP. There is still one distinguishing factor between the subject trace in Mandarin Chinese and the trace of the adverbials in (144)–(146): the subject trace is an A-trace, while the adverbial trace is an $\bar{A}$ -trace. Thus, the following statement could potentially work:

- (147) $\bar{A}$ - but not A-traces can serve as facilitators.

However, one should admit that (147) sounds highly ad-hoc and lacks independent theoretical motivations.

Voice Newman (2020) follows Collins (2005) and Merchant (2013) in taking a VoiceP layer as the locus for passive and active morphology, projected above the external argument in Spec, νP . This VoiceP layer is argued to be absent for English middles, where the agent does not even seem to be implicitly argument. It is crucially this absence of Voice that make the movement step from Spec, νP to Spec,TP in need of facilitation.

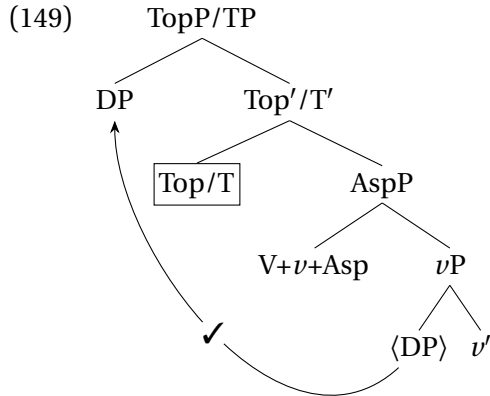
¹³If it is assumed that the object moves to an outer specifier of νP , then the trace of the subject will serve as a low facilitator. Because of the assumption of the PMC, both movements will also be licensed.



However, Chen & Yip (2024) apply crossing-based anti-locality to object topicalization in active transitive sentences, and therefore, they must assume that Voice is absent even in active sentences in Mandarin Chinese, contrary to the claim made in Collins (2005) and Merchant (2013). Although see Sybesma (2021) for arguments that in Mandarin active transitive sentences without particles *ba* or *gei*, Voice and *v* are bundled, which makes the configuration essentially equivalent to one where there is only *v*.

4.4 Aspectual projections in crossing-based analyses

Both Chen & Yip (2024) and Newman (2020) rely on assumptions about the aspectual projections, because they are sandwiched between the intermediate and final landing sites of the moving DP, and whether aspectual heads can serve as facilitators determines the prediction of the analyses in certain cases. Chen & Yip (2024) assume that aspectual projections are not present when the verb is bare, i.e., when there are no overt aspectual markers. Newman (2020) ignores aspect throughout, which can basically amount to the assumption that it is never present. If Asp is present, then an issue immediately arises for both analyses:



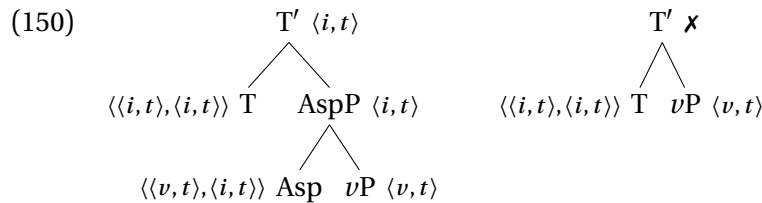
Asp is the closest c-commanding head for Spec, *v*P, and therefore, movement to Spec, TopP/TP crosses T which is distinct from Asp, satisfying anti-locality. For Chen & Yip (2024), who assume the PMC, this means that enough facilitation is always provided for both movement steps. For Newman (2020), this means that an additional high facilitator is never necessary. Verbs either allow middles without overt facilitators (the first verb class), or require a low facilitator for middles (the second and third verb

classes).

I will show that both of these assumptions related to the absence of Asp are theoretically flawed.

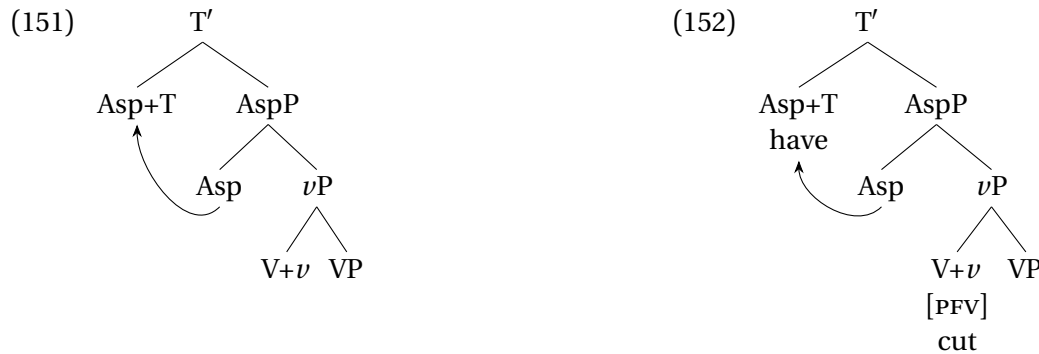
4.4.1 Asp is ever-present

Most semantic analyses of tense and aspect consider the input to the aspectual head, usually a VP, ν P, or VoiceP, semantically a predicate of events, i.e., of type $\langle \nu, t \rangle$, where ν is the type of events. Asp^0 takes the event predicate as an argument, and returns a predicate of time intervals, i.e., of type $\langle \langle \nu, t \rangle, \langle i, t \rangle \rangle$, where the event predicate is existentially closed, with the temporal relation between the event witness and the interval argument specified (von Stechow 1999, Klein 2013, Pancheva 2012). Then, T^0 is a function from time predicates to time predicates, i.e., of type $\langle \langle i, t \rangle, \langle i, t \rangle \rangle$, which relates the time of evaluation to the utterance time.



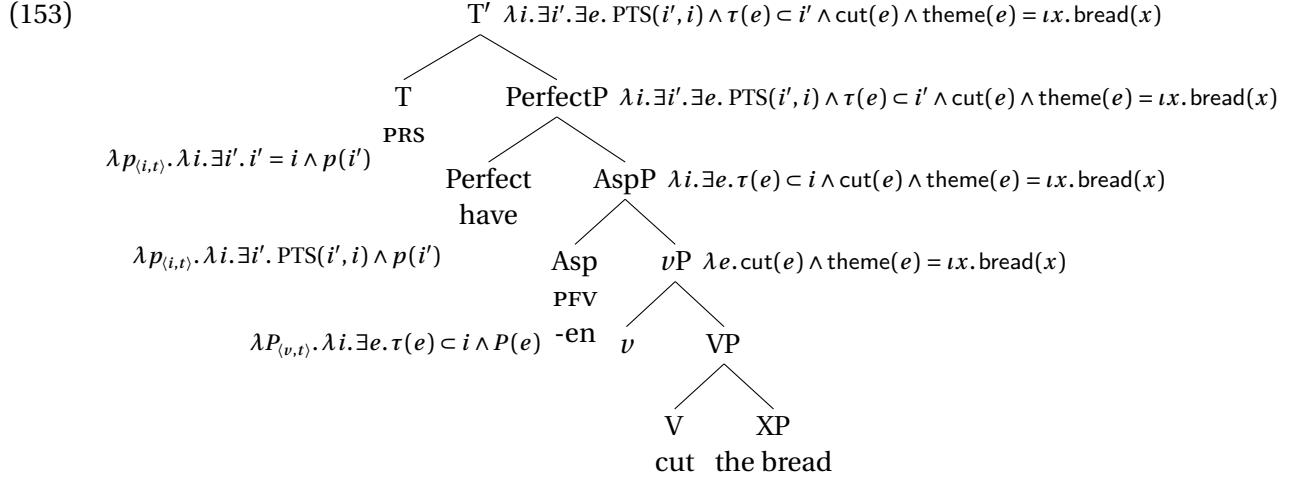
The crucial point is that without an aspectual layer, T is unable to take an event predicate as an argument; there is a type-mismatch: a function of type $\langle \langle i, t \rangle, \langle i, t \rangle \rangle$ cannot take a $\langle \nu, t \rangle$ argument. Asp should be always present, for semantically, regardless of whether an overt aspectual marker is seen.

In English, it might be claimed that Asp moves to T , and therefore cannot be counted as distinct from T from the perspective of crossing, as in (151). However, this means that any aspectual inflections on the verb stem must be derived from a feature that is spelled out on ν , rather than a separate head, as in (152).



This runs afoul of Minimalist and Distributed Morphology views of affixes as separate heads which are only realized on the verb stem via head movement and/or post-syntactic operations. It also makes it impossible to understand the semantic contribution of aspect in a compositional manner: there must be different versions of ν with different aspects lexically encoded. I consider this state of affairs undesirable.

Additionally, the standard semantic analysis of the perfect aspect requires two functional elements: one for setting the Present Time Span (PTS, where $\text{PTS}(i', i) \Leftrightarrow i$ is a final subinterval of i'), and the other setting the viewpoint aspect (Pancheva 2012).



Semantically, if the functions performed by $Perfect^0$ and $Aspect^0$ are bundled together, then we lose generality considerably: 1) it is possible for Tense to directly combine with viewpoint aspects, as is the case in simple tenses; 2) there are multiple viewpoint aspects that can be combined with Perfect, i.e., including at least perfective, imperfective, and resultative. I thus consider the move to a single head performing the duties of both heads highly undesirable. But as soon as there are two separate heads responsible for the perfect aspect, and because at surface, there are two words instead of one (the auxiliary *have* and the past participle), it cannot be the case that a single head movement chain has connected all of the verbal and functional heads. There will be at least two heads that are distinct from the perspective of crossing, making the second movement step of the surface subject always sufficiently facilitated. Yet the relevant example in present perfect sounds just as odd as the simple past:

(154) *The bread has cut.

4.4.2 Bare verbs in Mandarin are imperfective

Sun (2022) provides a detailed analysis of zero-marked verb forms in Mandarin Chinese. The conclusion is that such verbs are imperfective, i.e., there is an imperfective aspect head that takes νP as the complement, rather than truly bare. There is an $AspP$ layer, with a covert Asp head encoding the imperfective meaning.

4.5 Mandarin verb-doubling: Lai (2021)

This section will first recapitulate the analysis of a generalization involving Mandarin Chinese verb-doubling based on Comp-to-Spec anti-locality given in Lai (2021), and then provide evidence that the generalization is empirically incorrect. The revised empirical picture apparently calls for a crossing-based anti-locality approach, but then the same points already raised against such an approach for object topicalization will be generally applicable to verb-doubling as well.

4.5.1 The anti-locality-based account

Recall the basic verb-doubling contrast with and without the adjunct:

- (155) *Lisi qi na-pi ma qi-le wu-ci.*
 L. ride that-CL horse ride-PFV five-time
 'Lisi rode that horse five times.'

- (156) **Lisi qi na-pi ma qi-le.*
 L. ride that-CL horse ride-PFV
 ‘Lisi rode that horse.’

Compare (156) with the grammatical, non-verb-doubled version:

- (157) *Lisi qi-le na-pi ma.*
 L. ride-PFV that-CL ma
 ‘Lisi rode that horse.’

This contrast leads Lai (2021) to proposing the following generalization:

- (158) *Adverbial Generalization*

In Mandarin, a postverbal FrP/DrP is obligatory in a verb-doubling sentence.

Lai (2021) is a general exploration of the Mandarin Chinese postverbal domain and proposes a fine-grained hierarchy of projections. The projections that are relevant for an account of the Adverbial Generalization are the following:

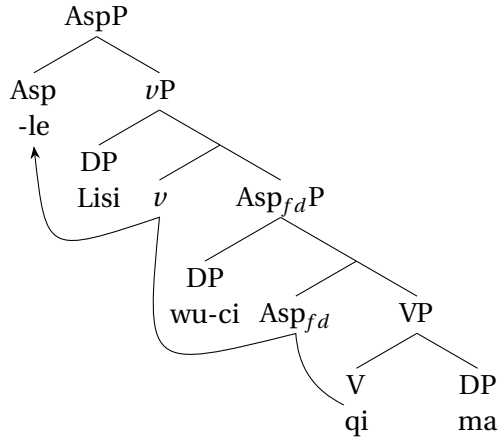
- (159)
-
- ```

graph TD
 TopP["...TopP"] --- Top["Top"]
 TopP --- AspP["...AspP"]
 AspP --- Asp["Asp"]
 AspP --- vP["vP"]
 vP --- v["v"]
 vP --- Asp_fdP["AspfdP"]
 Asp_fdP --- Asp_fd["Aspfd"]
 Asp_fdP --- VP["VP"]
 VP --- V["V"]
 VP --- Ellipsis["..."]

```

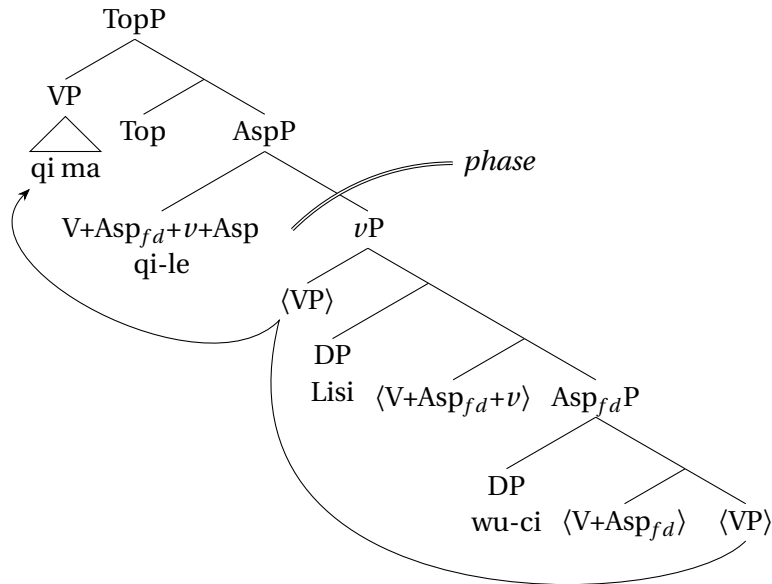
$\text{Top}^0$  drives VP-fronting to its specifier, which is the derivational step responsible for verb-doubling. It is assumed to be not present if VP-fronting (verb-doubling) is not observed. Aspectual markers such as the perfective *le* are found in  $\text{Asp}^0$ .  $v^0$  is responsible for introducing the external argument, a common assumption. It is also a phase; thus, extraction of and from the complement of  $v$  must therefore proceed through its specifier.  $\text{Asp}_{fd}^0$  introduces frequency or durative adverbials such as *liang-ci* ‘twice’ or *wu-ge xiaoshi* ‘five hours’ in its specifier.  $V^0$  hosts the direct object in its complement. The projections are illustrated in the structure of the following example:

- (160) *Lisi qi-le wu-ci na-pi ma.*  
 L. ride-PFV five-time that-CL horse  
 ‘Lisi rode that horse five times.’



In his system, verb-doubling will have the following structure:

- (161) *Lisi qi ma qi-le wu-ci.*  
 L. ride horse ride-PFV five-time  
 'Lisi rode the horse five times.'



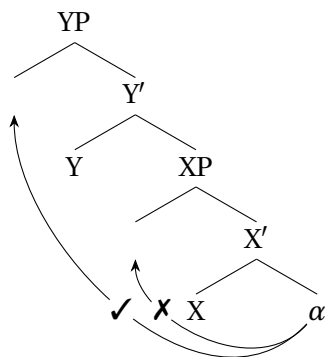
The VP first moves to the edge of  $\nu$ P-phase, and then to Spec,TopP. Thus, Lai (2021) basically analyzes verb-doubling as arising from internal topicalization of the VP. A separate process at the syntax-phonology interface ensures that the verb is pronounced twice, once in the fronted VP, and once in its usual position in  $\text{Asp}^0$ , which I will not detail here. Now, the goal is to rule out the derivation above in the absence of the FrP/DrP (and possibly also the  $\text{Asp}_{fd}$ -layer). Lai employs Comp-to-Spec Anti-locality of Abels (2003).

- (162) *Comp-to-Spec anti-locality*

Movement of a phrase from Comp,X must cross a head other than X.

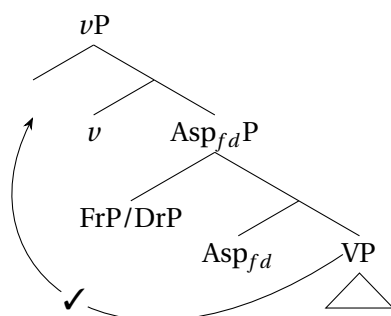
~ Rules out movement from Comp,X to Spec,XP.

~ Allows movement from Comp,X to Spec,YP, crossing Y.

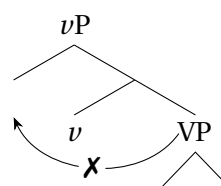


Notice that Abels (2003) derives this constraint as a natural consequence of his theory of feature-sharing. Lai does not assume any particular theory of Agree or feature-sharing. Rather, the constraint in (162) is adopted as a stipulative one, on par with the Spec-to-Spec Anti-locality utilized by Erlewine (2016, 2020). Then, assuming that when FrP/DrP is absent, the  $Asp_{fd}$  projection is also absent, we clearly see that when the FrP/DrP is present, movement of VP to Spec,  $\nu$ P is licensed, while when the FrP/DrP is absent, movement of VP to Spec,  $\nu$ P violates Comp-to-Spec Anti-locality:

(163)



(164)



Then, the Adverbial Generalization is captured. This approach makes the additional prediction that elements base-generated outside  $\nu$ P cannot salvage the derivation in the absence of the FrP/DrP. This prediction is borne out: sentences with verb-doubling and elements like modals or negation are judged unacceptable in the absence of FrP/DrP:

- (165) a. \**Lisi meiyou du na-ben shu du.*  
 L. NEG read that-CL book read  
 Intended: 'Lisi did not read that book.'
- b. \**Lisi du na-ben shu mei du.*  
 L. read that-CL book NEG read  
 Intended: 'Lisi did not read that book.'

- (166) a. \**Lisi keyi du na-ben shu du.*  
 L. can read that-CL book read  
 Intended: 'Lisi can read that book.'
- b. \**Lisi du na-ben shu keyi du.*  
 L. read that-CL book can read  
 Intended: 'Lisi can read that book.'

On the other hand, elements analyzable as having a position between VP and  $\nu$ P are predicted to license VP-fronting and therefore verb-doubling in the absence of the FrP/DrP.

- (167) *Zhangsan gan feiji gan-shang-le.*  
 Zhangsan catch plane catch-up-PFV  
 ‘Zhangsan caught the plane.’

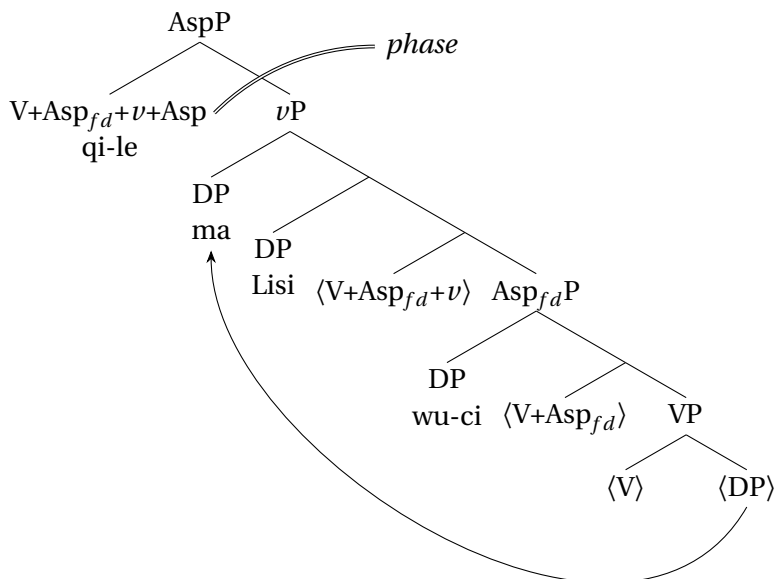
If the particle *shang* is the head of a projection between V and *v*, to which V moves and brings along in subsequent head movement, then (167) should be a case where Anti-locality is obviated due to this intervening projection.

#### 4.5.2 Counterexamples to the Adverbial Generalization

So far, the Comp-to-Spec Anti-locality account has been successful in predicting the Adverbial Generalization. However, as will be shown in this section, the Adverbial Generalization itself has several counterexamples: notably, high facilitators like the kinds that Chen & Yip (2024) show for object internal topicalization also work for VP-fronting.

**Verb doubling with object-scrambling** The first kind of counterexample concerns verb-doubling co-occurring with object-scrambling, resulting in structures where the first instance of the verb is not followed by the direct object. There is the possibility of object-scrambling to Spec,*v*P, rendering the object to the left of the FrP/DrP:

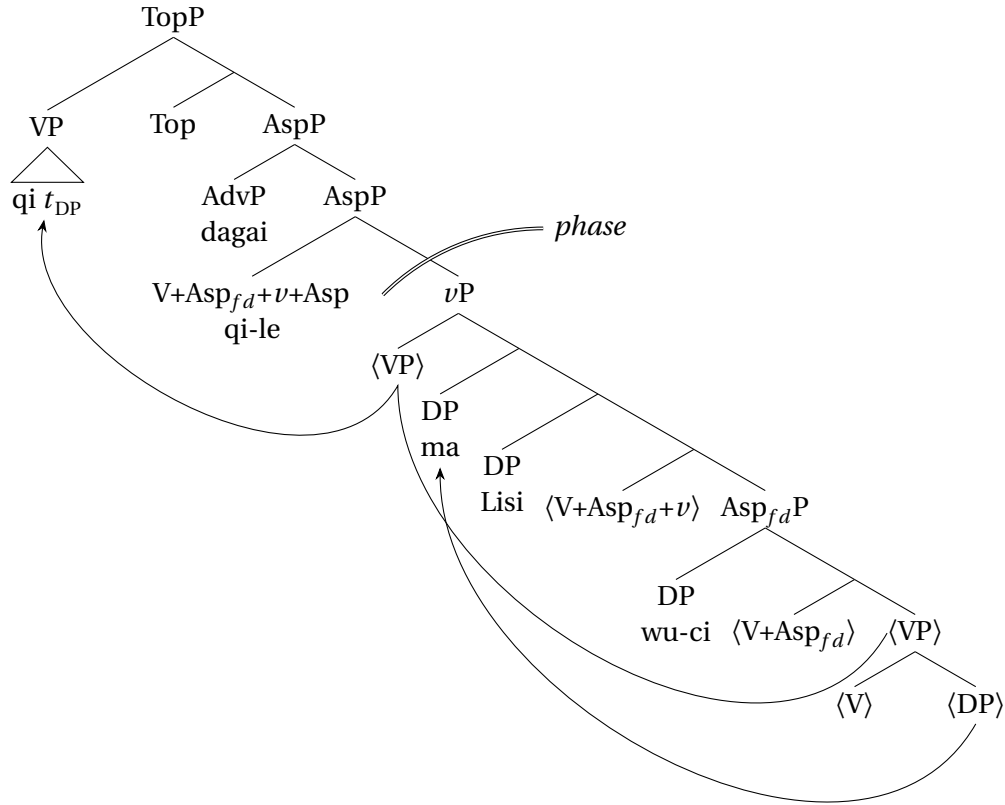
- (168) *Lisi qi-le na-pi ma wu-ci.*  
 L. ride-PFV that-CL horse five-time  
 ‘Lisi rode that horse five times.’



It is also possible to perform VP-fronting following object-scrambling:

- (169) a. *Lisi qi dagai qi-le na-pi ma {wu-ci /shi-ge xiaoshi}.*  
 L. ride probably ride-PFV that-CL horse five-time ten-CL hour  
 ‘Lisi probably rode the horse {five times/for ten hours}.’

(170) (169a), with the DP *na-pi ma* ‘that horse’ replaced by *ma* ‘horse’



Crucially, it should be observed that scrambling the object in this manner does not affect the locality properties of VP-fronting with respect to Comp-to-Spec Anti-locality. The scrambled object is a higher specifier of  $\nu P$ , and does not correlate with any additional projections between V and  $\nu$ . The Comp-to-Spec Anti-locality will still be violated if the VP is extracted without an intervening  $Asp_{fd}$ -layer. It is therefore predicted that still there is a requirement of FrP/DrP to license the VP-fronting when there is object-scrambling. However, this is not the case; it is possible to omit the FrP/DrP from the examples in (169).

- (171) a. *Lisi qi dagai qi-le na-pi ma.*  
L. ride probably ride-PFV that-CL horse  
'Lisi probably rode the horse.'
- b. *qi, Lisi dagai qi-le na-pi ma.*  
ride L. probably ride-PFV that-CL horse  
'Lisi probably rode the horse.'

This means that in order to still make (171) conform to Comp-to-Spec Anti-locality, one must posit that object-scrambling must land in the specifier of a different projection than VP or *v*P, for which there

is no independent evidence.

***v*P-adjuncts** The Adverbial Generalization is limited to adverbials between V and *v*. However, *v*P-adjuncts, such as time, place, and manner adverbials, also license verb-doubling.

- (172) *Zhangsan qi na-pi ma {renzhen / zuotian / zai zhe-li } qi-le.*  
 Z. ride that-CL horse carefully yesterday at this-LOC ride-PFV  
 ‘Zhangsan rode that horse carefully/yesterday/here.’

Their position is higher than the final landing site of V, clearly above *v*, and should not obviate Anti-locality.

**Polar questions** Other counterexamples of the Adverbial Generalization come from polar questions. VP-fronting and therefore verb-doubling in the absence of FrP/DrP is licensed when the sentence is a polar question, marked by the sentence-final particle *ma*:

- (173) a. *Zhangsan qi na-pi ma qi-le ma?*  
 Z. ride that-CL horse ride-PFV Q  
 ‘Did Zhangsan ride that horse?’  
 b. *Zhangsan qi na-pi ma meiyou qi ma?*  
 Z. ride that-CL horse NEG ride-PFV Q  
 ‘Is it the case that Zhangsan didn’t ride that horse?’  
 c. *Zhangsan qi na-pi ma keyi qi ma?*  
 Z. ride that-CL horse can ride Q  
 ‘Can Zhangsan ride that horse?’

In (173), the FrP/DrP-less constructions presented to be ungrammatical (without any additional material, with negation, and with a modal) are all acceptable when a polar question is used. *Ma* is almost invariably considered a C head (Erlewine 2017, Zhang 2019, Pan 2021) in the literature; thus, there is no reason to believe that it can correspond to an additional projection between V and *v*. Comp-to-Spec Anti-locality does seem to be violated in the examples in (173). Further, answers to such polar questions, with polarity/verum focus, is also acceptable with verb-doubling:

- (174) *Zhangsan qi na-pi ma QI-le.*  
 Z. ride that-CL horse ride-PFV  
 ‘Zhang, as for riding that horse, did (do so).’

***shi...de* focus constructions** There is another construction that licenses VP-fronting and therefore verb-doubling in the absence of FrP/DrP, the *shi...de* focus construction, which should enclose a focused material:

- (175) a. *Zhangsan qi na-pi ma shi qi-le WUCI de.*  
 Z. ride that-CL horse FOC ride-PFV five-time DE  
 ‘Zhangsan rode that horse FIVE TIMES.’  
 b. *Zhangsan qi na-pi ma shi QI-le de.*  
 Z. ride that-CL horse FOC ride-PFV DE  
 ‘Zhangsan DID ride that horse.’

- c. *Zhangsan qi na-pi ma **shi** MEIYOU qi **de**.*  
 Z. ride that-CL horse FOC NEG ride-PFV DE  
 ‘Zhangsan indeed did NOT ride the horse.’
- d. *Zhangsan qi na-pi ma **shi** KEYI qi **de**.*  
 Z. ride that-CL horse FOC can ride-PFV DE  
 ‘Zhangsan CAN indeed ride the horse.’
- e. *Zhangsan qi **shi** QI-le na-pi ma **de**.*  
 Z. ride FOC ride-PFV that-CL horse DE  
 ‘Zhangsan DID ride that horse.’
- f. *Zhangsan qi **shi** qi-le NA-PI MA **de**.*  
 Z. ride FOC ride-PFV that-CL horse DE  
 ‘Zhangsan rode THAT HORSE.’

The focused materials are marked with all capitals. Again, constructions claimed to be ungrammatical due to the lack of the FrP/DrP are now grammatical with focus appropriately placed and signaled with the *shi...de* construction. It should be noted that one of *shi* and *de* can be omitted; when the prosodic prominence is clear enough, even both of them can be omitted, rendering the exact same sentences claimed by Lai (2021) to be ungrammatical, acceptable. There are competing accounts of the *shi...de* construction Cheng (2008) and Paul & Whitman (2008), but none of them analyze *de* as internal to the material that it and *shi* enclose. *Shi* on the other hand, is clearly outside the *v*P due to its position to the left of the final landing head of V, Asp. The other details of the structure of the *shi...de* construction are then irrelevant for the present purpose, as it should already be clear that the construction cannot introduce an intervener between V and *v* that can obviate Comp-to-Spec Anti-locality.

**Summary and discussion** So far, the results show that high facilitators do license VP-fronting, and Comp-to-Spec anti-locality as employed by Lai (2021) undergenerates significantly.

(176) List of high facilitators licensing VP-fronting

- a. Object scrambling with high adverbs/modals
- b. *v*P-adjuncts
- c. polar questions
- d. polarity focus
- e. *shi...de* focus constructions

Then, one might have the hope that the real empirical picture of VP-fronting/verb fronting should fit better into the crossing-based theory of Chen & Yip (2024). But as we have already seen, there are issues inherent to the crossing-based analysis that will also surface for verb-doubling if the switch is made.

## 5 Conclusion

This paper has proposed a unified pragmatic explanation rooted in question-answer congruence and the principle of Partition by Exhaustification (PARTITION-BY-EXH). It has argued against syntactic anti-locality accounts for seemingly obligatory adjuncts and facilitators in various constructions. I have demonstrated that the apparent obligatoriness of adjuncts in English passives and middles, as well as Mandarin Chinese object topicalization and verb-doubling, arises from the infelicity of sentences that fail to introduce new, non-tautological information into the common ground. These infelicitous cases typically involve contextual tautologies for which no focus placement can generate a partition of the context set when exhaustified.

My analysis of English passives showed that the infelicity of sentences like *The house was built* stems from their status as contextual tautologies. The addition of adjuncts or mechanisms that intensionalize the subject, such as modals or negation, felicitously resolves this by providing a domain for meaningful focus and, consequently, a proper partition of the context. Similarly, for English middles, infelicitous instances like *The book reads* were analyzed as contextual tautologies, while felicitous adjunctless middles (e.g., *This dress buttons*) were shown to allow focus placement that yields a context-partitioning question. I also offered a nuanced explanation for the differential behavior of verbs like *read* and *cut* concerning modal and negative facilitation, attributing it to the degree of conceptual entrenchment of their inherent properties. However, my proposal does overgenerate the cases where a modifier inside the subject DP seems to remove the contextual redundancy.

The pragmatic account was extended to Mandarin Chinese object topicalization and verb-doubling, where seemingly ungrammatical adjunctless constructions were shown to be felicitous when congruent to appropriate salient questions, especially polar questions or those introduced by contrastive focus. This empirical re-evaluation highlights that previous analyses often misidentified infelicity as ungrammaticality, overlooking the role of context and information structure.

Furthermore, I have shown that existing syntactic anti-locality accounts face significant theoretical and empirical challenges. These include conflicting definitions of anti-locality across different phenomena, the ad-hoc stipulation of covert facilitators, inconsistencies in handling traces as facilitators, problematic assumptions about VoiceP and aspectual projections, and the inability to accommodate felicitous adjunctless constructions without further stipulations. The theoretical arguments demonstrated that these syntactic approaches often rely on structurally implausible assumptions or lead to type mismatches and loss of generality in semantic composition.

In conclusion, the phenomenon of obligatory adjuncts and facilitators is not a matter of syntactic constraint but rather a consequence of pragmatic principles governing focus placement. The PARTITION-BY-EXH framework offers a unified explanation, suggesting that successful linguistic communication requires sentences to address relevant questions and contribute non-trivial information to the discourse. This work underscores the crucial role of pragmatics and information structure in shaping grammatical acceptability and highlights the limitations of purely syntactic explanations for such phenomena.

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