Control Without Finiteness Contrasts:
Aspect and Complement Size in Mandarin Chinese

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Abstract. This paper investigates the behavior of aspect markers in controlled complements in Mandarin Chinese. I argue that such markers are instantiations of matrix aspect, despite surface appearances. The facts are shown to follow from the independently motivated proposal that Mandarin controlled complements are vPs, together with a phase-bound approach to the syntax of (affixal) aspect placement. The analysis implies that Mandarin lacks a finite/nonfinite distinction; rather, all empirical contrasts between controlled and non-controlled complements follow from a (vP vs. CP) split in complement size. Given that vP lacks the structure to assign Case to its [Spec,vP] subject, the analysis also supports the view that controlled positions are non-Case positions.

1. Introduction

The empirical focus of this paper is aspectual marking in Mandarin controlled complements. This phenomenon (henceforth, ASPECT-UNDER-CONTROL) is exemplified in (1), where the (bracketed) controlled complement contains the (bolded) experiential aspect marker -guo.¹

¹My work with informants indicates that there are in fact three populations of Mandarin speakers that differ with respect to the status of sentences like (1). For some speakers, (1) is acceptable, and is semantically neutral with respect to whether Lisi did or did not eat the apple in question, just like the following minimal variant of (1) in which the aspect marker is found in the matrix clause instead of in the embedded clause (cf. Li 1985, 1990; Cheng 1989; Huang 1989):
(1) Zhāngsān quàn Lǐsì [chī-guo yi-ge píngguǒ].
Zhangsan urge Lisi eat-EXP one-CL apple
‘Zhangsan urged Lisi to eat an apple.’

Although such structures have not been investigated in much detail in the generative literature, they have long enjoyed a central status in the ongoing debate over whether Mandarin has a finite/nonfinite distinction, and previous scholarship on the topic can be divided into two positions. On the one hand, Huang (1989); Li (1990) (cf. also Huang 1982; Li 1985; Cheng 1989) argue that (a) Mandarin has a covert finite/nonfinite distinction, (b) Mandarin controlled complements are uniformly nonfinite, (c) nonfiniteness in Mandarin precludes overt aspect marking, and consequently (d) any apparent occurrence of an aspect marker in a controlled complement like in (1) must actually be an instance of matrix aspect, despite surface appearances. Call this the MATRIX ANALYSIS of aspect-under-control, schematized in (2a). On the other hand, Xu (1985–1986); Huang (1994b, 1995); Hu et al. (2001) argue that Mandarin does not have a finite/nonfinite dis-

(i) Zhāngsān-quàn-guo Lǐsì [chī-yī-ge píngguǒ].
Zhangsan-urge-EXP Lisi eat one-CL apple
‘Zhangsan urged Lisi to eat an apple.’

For other speakers, (1) is acceptable, but contrasts in meaning with (i), whereby (1) but not (i) entails that Lisi did indeed eat the apple in question (cf. Xu 1985–1986; Hu, Pan, and Xu 2001). Finally, for yet a third group of speakers, (1) is unacceptable, regardless of interpretation. Taking these judgments at face value, I assume that there are three distinct grammars at work here. The primary focus of this paper is on the grammar of the first group of speakers, and consequently all of the core data in sections 2 and 3 represent judgments from this group. In section 6.1, however, I sketch a way of accounting for the observed variation while preserving the generality (for all three groups of speakers) of the proposal that Mandarin lacks a finite/nonfinite distinction and that Mandarin controlled complements are vP.

2Abbreviations used in glosses are as follows: CL = classifier, DUR = durative aspect, EXP = experiential aspect, GEN = genitive, NEG = negation, PRF = perfective aspect, PROG = progressive aspect, SBJV = subjunctive. Following standard practice, I gloss -guo as EXP(eriential) since canonically it is used to convey that “an event has been experienced with respect to some reference time” (Li and Thompson 1981:226, italics in the original). To keep the free translations as concise as possible, however, I translate guo-sentences using the English simple past.
tinction and that in sentences like (1), the aspect marker is part of the complement clause. Call this the EMBEDDED ANALYSIS of aspect-under-control, schematized in (2b).

\[
\begin{align*}
(2) & \quad a. \quad [ \ASP [ \ldots \V_{\text{matrix}} \ldots [ \ldots \V_{\text{embedded}} \ldots ] ] ] \quad \text{MATRIX ANALYSIS} \\
& \quad b. \quad [ \ldots \V_{\text{matrix}} \ldots [ \ASP [ \ldots \V_{\text{embedded}} \ldots \] ] ] \quad \text{EMBEDDED ANALYSIS}
\end{align*}
\]

In this paper, I stake out a hybrid position: on the one hand, I side with Li (1985); Cheng (1989); Huang (1989) in arguing that aspect markers in Mandarin controlled complements are projections of matrix aspect, despite surface appearances; but on the other hand, I side with Xu (1985–1986); Huang (1994b); Hu et al. (2001) in maintaining that Mandarin does not have a finite/nonfinite distinction (contra Huang 1982, 1989; Li 1985, 1990; Tang 1990, 2000; Lin 2011). Rather, I argue that all of the empirical splits that track the distinction between controlled and non-controlled complements in Mandarin follow from a split in complement size: in Mandarin, controlled complements are \( \nu \)Ps, whereas non-controlled complements are CPs. This analysis explains a wide range of facts without relying on an otherwise unmotivated finite/nonfinite distinction.

These proposals have broader implications for crosslinguistic (non-)variation in finiteness, the distribution of complement control, and their interaction. In the GB tradition, the correlation between nonfiniteness and control in English was taken as central: PRO must be ungoverned, and the subject position of a nonfinite CP is ungoverned (see especially Chomsky 1981). In more recent years, this simple correlation has been complicated by an increasingly rich crosslinguistic range of data both in the nuances of the finite/nonfinite distinction and in how this distinction interacts with the distribution of control. In the former category, for example, are the inflected infinitives of Hungarian (Tóth 2000) or Portuguese (Raposo 1987), as well as the tensed/untensed distinction in English infinitives (Stowell 1982), and the explicit dissociation between tense and finiteness in Reuland’s (1983) study of English gerunds. In the latter category, for example, are the existence of control into (some) subjunctive complements in Balkan languages like Greek (Terzi 1992; Iatridou 1993; Roussou 2009) and the availability of control into finite indicative complements in Brazilian Portuguese (Rodrigues 2004; Ferreira 2009, though cf. Modesto 2010). In current Minimalist
theorizing, the Government approach to the distribution of PRO has been superseded by two main competing alternatives which have had to countenance this greater range of facts. In one approach, Hornstein (1999); Boeckx, Hornstein, and Nunes (2010) attempt to bring PRO under the fold of A-movement by arguing that PRO is actually A-trace. On this view, the distribution of PRO should track the distribution of A-movement, and assuming that the assignment (or checking) of abstract Case freezes A-movement, this approach can be seen as preserving some of the basic spirit of the GB approach, insofar as (for the subject position of a nonfinite CP) failure of government coincides with Case-lessness (cf. Bouchard 1984). In another approach, (Landau 2004, 2006) has advocated divorcing the distribution of PRO from Case, arguing that PRO bears Case like an ordinary DP and that instead, [Tense] and [Agr] features on I° and C° conspire to directly determine where PRO can appear. If my approach to Mandarin control is on the right track, it is an argument for the Case-based approach to the distribution of PRO (implemented either in a Movement theory or a Case-less PRO theory): Mandarin controlled complements are vPs, and vP lacks the structure needed to assign Case to a [Spec,vP] subject. More specifically, the lesson here is that at least some of the burden of explaining the distribution of control can be shifted away from distinctions like finiteness/nonfiniteness — which are difficult to justify in languages like Mandarin that lack tense and agreement morphology — and onto splits in complement size — splits made available in some sense ‘for free’ by the architecture of the clause and also well documented for other languages (see especially Wurmbrand 2001).

The argumentation, as well as the organization of the paper, will proceed as follows. First, in section 2, I present four novel arguments for the matrix analysis of Mandarin aspect-under-control structures: I show that in such structures, the aspect marker interacts with properties of the matrix clause (negation, progressive aspect, habituality, and experiential aspect) in a way that is immediately explained on the matrix analysis. I also consider whether an embedded analysis could account for the relevant interactions, concluding that such an approach is problematic.

In section 3, I extend the results of the previous section to a wider range of embedding predicates and a wider range of aspect markers to arrive at the CONTROL-ASPECT CORRELATION:
In Mandarin, an aspect marker in a controlled complement clause — when grammatical at all — instantiates matrix aspect, whereas an aspect marker in a non-controlled complement clause instantiates embedded aspect.

In section 4, I argue that in Mandarin, controlled complements are vPs whereas non-controlled complements are CPs. This proposal makes sense of three important properties of controlled complements: it has a PRO subject (i.e., its defining property) because there are no Case assigners to assign Case to [Spec,vP]; it disallows (locally interpreted) aspect markers because Asp projects outside vP, and it disallows inner topicalization (Paul 2005a) because InnerTop also projects outside vP.

In section 5, I turn to the syntax of aspect placement. Drawing on Pesetsky and Torrego’s (2007) approach to English T(ense)-V agreement, I argue that Mandarin aspectual suffixes including -guo are base-generated on verbal stems and give rise to an uninterpretable but valued aspectual feature on V. They enter into an Agree relation with a matrix aspectual probe that is interpretable but unvalued. Adopting a phase-bound view of Agree, I show that the Agree relation may cross a (controlled) vP but not a (non-controlled) CP boundary. Consequently, in a control configuration, a matrix aspectual probe may get its value either from the matrix verb or the embedded verb, but in a non-control configuration, a matrix aspectual probe may get its value from the matrix verb only. The upshot is that the matrix status of the aspect marker in Mandarin aspect-under-control structures follows as an inevitable consequence of the way the syntax of control interacts with the syntax of aspect placement, and no appeal to a finite/nonfinite distinction is needed.

Section 6 discusses some refinements and elaborations of the core proposals, including an account of inter-speaker variation with respect to the status of aspect-under-control, a discussion of embedded modals, and a discussion of how the CP/vP split bears on some other putative finite/nonfinite contrasts in Mandarin.

Finally, section 7 concludes by summarizing the main arguments of the paper, reflecting on what the results mean for the crosslinguistic definability of the finite/nonfinite distinction, and discussing why complement clauses in Mandarin should come in two different sizes and to what
extent the proposal finds crosslinguistic support. I suggest that crosslinguistic support is found in
the pervasiveness of restructuring effects in Romance, Germanic, and many other languages.

2. Arguments for the Matrix Analysis of Aspect-under-control

2.1 Interaction with Matrix Negation

The first argument for the matrix analysis of Mandarin aspect-under-control is based on an inter-
action between aspect and negation: whereas an aspectually zero-marked clause can be negated
with bu (3), a clause marked with -guo is ungrammatical with bu (4a) and is instead negated with
méi(yǒu) (4b). This is illustrated in (3)–(4) using a simple transitive verb, and (5)–(6) show that
the same generalization holds when the verb is quàn ‘urge’.

(3) Zhāngsàn bu chī yi-ge píngguǒ.
Zhangsan NEG eat one-CL apple
‘Zhangsan doesn’t/won’t eat an apple.’

(4) a. *Zhāngsàn bu chī-guo yi-ge píngguǒ.
Zhangsan NEG eat-EXP one-CL apple
Intended: ‘Zhangsan has not eaten an apple.’

b. Zhāngsàn méi(yǒu) chī-guo yi-ge píngguǒ.
Zhangsan NEG eat-EXP one-CL apple
‘Zhangsan has not eaten an apple.’

(5) Zhāngsàn bu quàn Lǐsī [chī yi-ge píngguǒ].
Zhangsan NEG urge Lisi eat one-CL apple
‘Zhangsan doesn’t/won’t urge Lisi to eat an apple.’

(6) a. *Zhāngsàn bu quàn-guo Lǐsī [chī yi-ge píngguǒ].
Zhangsan NEG urge-EXP Lisi eat one-CL apple
Intended: ‘Zhangsan didn’t urge Lisi to eat an apple.’

b. Zhāngsàn méi(yǒu) quàn-guo Lǐsī [chī yi-ge píngguǒ].
Zhangsan NEG urge-EXP Lisi eat one-CL apple
‘Zhangsan didn’t urge Lisi to eat an apple.’

3For previous theoretical approaches to the syntax of negation in Mandarin and its interaction with aspect, see
Wang 1965; Huang 1988; Ernst 1995; Lee and Pan 2001; Lin 2003a. The argumentation that follows does not rely on
any particular analysis; all that matters is the descriptive generalization.
Crucially, the incompatibility between -guo and bu is clause-bound: as shown in (7), a complement clause marked with -guo is compatible with a matrix instance of bu. But when we turn to aspect-under-control structures, the situation is different: as seen in (8), even when -guo appears on the embedded verb, the matrix clause cannot be negated with bu; měi(yǒu) is used instead.

(7) Zhāngsān bu zhīdào [Lǐ sī chī-guo yī-ge píngguǒ].
Zhangsan NEG know Lisi eat-EXP one-CL apple
‘Zhangsan doesn’t know that Lisi ate an apple.’

(8) a. *Zhāngsān bu qu `ǎn Lǐ sī [chī-guo yī-ge píngguǒ].
Zhangsan NEG urge Lisi eat-EXP one-CL apple
Intended: ‘Zhangsan didn’t urge Lisi to eat an apple.’

b. Zhāngsān měi(yǒu) qu `ǎn Lǐ sī [chī-guo yī-ge píngguǒ].
Zhangsan NEG urge Lisi eat-EXP one-CL apple
‘Zhangsan didn’t urge Lisi to eat an apple.’

On the matrix analysis of aspect-under-control, the ungrammaticality of (8a) is fully expected, and follows as an immediate consequence of whatever principle renders (6a) ungrammatical.4

2.2 Interaction with Matrix Progressive

Next we turn to the interaction between -guo and the progressive marker zài. As shown in (9), a clause marked with progressive zài is incompatible with -guo. (10) illustrates this same fact for a

(i) a. ??wǒ quàn tā bié lái-guo hǎo jǐ cì.
1SG urge 3SG NEG come-EXP good several time
‘I’ve urged him not to come several times.’

b. *nǐ bié lái-guo!
2SG NEG come-EXP

An anonymous reviewer points out another potential argument for the matrix analysis based on interaction with embedded negation. According to the reviewer, aspect-under-control is marginally compatible with embedded bié, a negative morpheme usually found in imperatives (ia). But bié is robustly unacceptable with -guo when both appear in the same clause (ib). The contrast in acceptability between (ia) and (ib) thus supports the view that in (ia), -guo is actually construed with the matrix clause.
clause whose main verb is *quàn ‘urge’.

(9) a. Zhāngsān zài chí yi-ge píngguǒ.
    Zhangsan PROG eat one-CL apple
    ‘Zhangsan is eating an apple.’

    b. *Zhāngsān zài chí-guo yi-ge píngguǒ.
    Zhangsan PROG eat-EXP one-CL apple

(10) a. Zhāngsān zài quàn Lǐsī [chī yi-ge píngguǒ].
    Zhangsan PROG urge Lisi eat one-CL apple
    ‘Zhangsan is urging Lisi to eat an apple.’

    b. *Zhāngsān zài quàn-guo Lǐsī [chī yi-ge píngguǒ].
    Zhangsan PROG urge-EXP Lisi eat one-CL apple

As illustrated in (11), the incompatibility between -guo and zài is clause-bound: -guo in a complement clause is compatible with a matrix instance of zài. But when we turn to aspect-under-control structures, the situation is different: embedded -guo is incompatible with matrix zài, as in (12).

(11) Zhāngsān zài zhēnglùn [Lǐsī chí-guo yi-ge píngguǒ].
    Zhangsan PROG argue Lisi eat-EXP one-CL apple
    ‘Zhangsan is arguing that Lisi ate an apple.’

(12) *Zhāngsān zài quàn Lǐsī [chī-guo yi-ge píngguǒ].
    Zhangsan PROG urge Lisi eat-EXP one-CL apple
    Intended: ‘Zhangsan is urging Lisi to eat an apple.’

A matrix analysis of aspect-under-control straightforwardly relates the ungrammaticality of (12) to the ungrammaticality of (10b).

2.3 Interaction with Matrix Habituality

Another characteristic of -guo is that it disallows a habitual interpretation of the clause it appears in, as evidenced by its incompatibility with an adverb like měi-tiān ‘every day’. (13) illustrates this with a simple transitive clause and (14) illustrates this with quàn ‘urge’.
(13)  

a. Zhāngsān měi-tiān chī yi-ge píngguǒ.
Zhangsan every-day eat one-CL apple
‘Zhangsan eats an apple every day.’

b. *Zhāngsān měi-tiān chī-guo yi-ge píngguǒ.
Zhangsan every-day eat-EXP one-CL apple

(14)  

a. Zhāngsān měi-tiān quàn Lǐsì [chī yi-ge píngguǒ].
Zhangsan every-day urge Lisi eat one-CL apple
‘Every day, Zhangsan urges Lisi to eat an apple.’

b. *Zhāngsān měi-tiān quàn-guo [Lǐsì chī yi-ge píngguǒ].
Zhangsan every-day urge-EXP Lisi eat one-CL apple

This incompatibility is clause-bound: as shown in (15), a matrix instance of měi-tiān ‘every day’ is compatible with an instance of -guo in the complement clause. But in aspect-under-control structures, this is not the case, as we see in (16).

(15)  

Zhāngsān měi-tiān shuō [Lǐsì chī-guo yi-ge píngguǒ].
Zhangsan every-day say Lisi eat-EXP one-CL apple
‘Every day, Zhangsan says that Lisi ate an apple.’

(16)  

*Zhāngsān měi-tiān quàn-guo [Lǐsì chī yi-ge píngguǒ].
Zhangsan every-day urge-EXP Lisi eat-EXP one-CL apple
Intended: ‘Every day, Zhangsan urges Lisi to eat an apple.’

Parallel to the two previous cases, a matrix analysis of aspect-under-control straightforwardly relates the ungrammaticality of (16) to the ungrammaticality of (14b).

2.4 Interaction with Matrix Experiential Aspect

-guo is ungrammatical in clauses that are already marked for experiential aspect via a duplicate instance of -guo, as illustrated in (17) for a simple transitive clause and in (18) for quàn ‘urge’.

(17)  

*Zhāngsān chī-guo-guo yi-ge píngguǒ.
Zhangsan eat-EXP-EXP one-CL apple
‘Zhangsan ate an apple.’
(18) *Zhāngsān quàn-guo Lǐsì [jiè yān].
Zhangsan urge-EXP Lisi stop smoke
Intended: ‘Zhangsan urged Lisi to quit smoking.’

Given this fact, a prediction of the matrix analysis of aspect-under-control is that (19) should be ungrammatical: the embedded aspect marker has a matrix source and hence should be just as unacceptable as it is in (18). More or less in line with this expectation, nine out 14 Mandarin speakers consulted judge (19) unacceptable, although four assign it a marginal status, and one judges it acceptable. (Li 1985 claims that structures like (19) are marginally acceptable. See also Tang 1990; Huang 1994b for reportedly acceptable examples of ‘double -guo’ sentences like (19).)

(19) %Zhāngsān quàn-guo Lǐsì [jiè-guo yān].
Zhangsan urge-EXP Lisi stop-EXP smoke
Intended: ‘Zhangsan urged Lisi to quit smoking.’

On the matrix analysis of aspect-under-control, the predominantly ungrammatical status of (19) straightforwardly relates to the ungrammaticality of (18). As for the speakers who accept or marginally accept (19), the analysis to be presented below will ultimately be able to account for this. To preview the point, it will reduce to variation in whether the matrix aspecual probe allows for Multiple Agree. On this view, (19) is reminiscent of other phenomena wherein multiple instances of the same kind of morpheme co-occur but only one is interpreted, such as negative concord (see e.g. Zeijlstra 2012). See section 5.3 for details.

2.5 Some Problems for the Embedded Analysis

As demonstrated above, aspect-under-control interacts with material in the matrix clause in a way that is immediately explained on the matrix analysis. Here I consider whether an embedded analysis could also account for the relevant facts and conclude that it cannot obviously do so.

As a starting point for this discussion, I assume following Lin (2003b, 2006) that experiential -guo, in addition to having an aspecual semantics, also has a temporal component: it has a relative past interpretation, locating an event in the past relative to some temporal anchor provided in the
sentence (in the case of embedded clauses) or by speech time (in the case of root clauses). (For other previous literature on the semantics of -guo, see also Smith 1991; Lin 2007; Pan and Lee 2004; Rubinstein and Hashimoto 2010.) Given this, we can ask what temporal ordering relation -guo imposes on aspect-under-control sentences. If the matrix analysis is correct, then the answer is that -guo associates with matrix event description, and it orders this event in the past relative to speech time.

If, on the other hand, the embedded analysis is correct, then -guo must associate with the embedded event description, and we would need to ask what provides the temporal anchor. Three logical possibilities are (a) anchor to matrix time, (b) anchor to some time provided internally to the complement clause, or (c) anchor to speech time. In what follows, I consider each of these three possibilities in turn.

Suppose -guo anchors to matrix time. This is the null hypothesis, because as demonstrated by Li (1999); Lin (2003b, 2006), it is what happens in contexts where -guo is uncontroversially part of the complement clause, as illustrated in (20).

(20)  Yúehàn shuō [Mǎlì shēng-guo qí].
   John  say  Mary get-EXP  angry
   ‘John said that Mary was angry (before the saying time).’ (Lin 2006:26)

But this cannot be the proper analysis for aspect-under-control structures like (21), since it seems to be a logical property of urgings that one cannot urge somebody to do something that has already happened. This is why the English sentence in (21) sounds odd.

(21)  Zhāngsàn quàn Lísi [chī-guo yī-ge píngguǒ].
   Zhangsan  urge  Lisi eat-EXP  one-CL  apple
   ‘Zhangsan urged Lisi to eat an apple.’

(22)  #John urged Bill to have eaten an apple.

Suppose, then, that -guo anchors to some time that is silently represented internally to the com-
plement clause. On this view, the proper translation for (21) would be something like ‘Zhangsan urged Lisi to have eaten an apple before some time,’ where ‘some time’ is contextually bound. But there are at least two problems for such a view. The first problem is that in a discourse-initial context, known instances of clause-internal anchoring with -guo require an overt time expression to serve as the anchor. In (23), for example, the presence of the future modal hui forces -guo to anchor to a time after speech time, but the sentence is infelicitous without the time expression. In aspect-under-control structures, by contrast, the complement clause need not contain any overt time anchor.

(23) #*(míngtiān xiǎowǔ) Zhāngsān huì chī-guo yī-gé píngguǒ. tomorrow afternoon Zhangsan will eat-EXP one-CL apple
‘By tomorrow afternoon, Zhangsan will have eaten an apple.’

A second problem for the clause-internal anchoring view is that even when an overt time expression is supplied, -guo in a controlled complement cannot anchor to it, as illustrated in (24). In (24a), an adjunct clause provides a potential anchor, and in (24b), an explicit time expression provides a potential anchor, but in both cases, the sentence is ungrammatical. (I employ matrix progressive in (24) in order to prevent a matrix construal for -guo, relying on the generalization from section 2.2 that experiential -guo and progressive zài cannot co-occur. This shows us that even if aspect-under-control were ambiguous between a matrix and an embedded construal, ‘blocking’ the matrix construal does not make available an embedded construal.)

Zhangsan PROG urge Lisi go America before try-EXP hamburger
Intended: ‘Zhangsan is urging Lisi to have tried hamburgers before going to the US.’

b. *Zhāngsān zài quàn Lǐsì shí-diǎn qián tuī-guo fáng.
Zhangsan PROG urge Lisi ten-o’clock before quit-EXP room
Intended: ‘Zhangsan is urging Lisi to have checked out of the room by ten o’clock.’

These considerations suggest that in an aspect-under-control structure, -guo can never anchor to a
time internal to the complement clause.5

Finally, suppose that although -guo is syntactically in the embedded clause, it anchors to speech time. In other words, -guo associates with the embedded event description but nonetheless is not part of the content of what is urged, instead locating the embedded event description in a time before speech time. On this view, the proper translation for the aspect-under-control sentence under consideration would be something like ‘Zhangsan urged Lisi to eat an apple, and Lisi’s eating-an-apple time precedes speech time.’ An obvious problem for this approach is that for some speakers, the sentence can be true without Lisi actually having eaten an apple (but see note 1 above and section 6.1 below on inter-speaker variation). But if we were to set this problem aside, the approach would appear to lend itself to an alternative explanation for the crucial facts from the previous subsections, repeated here in (25). In particular, what could be said is that the important property of the bolded matrix material in (25) is that they force matrix present tense, which (given the impossibility of urging someone to do something that has already happened) conflicts with the prior-to-speech-time semantics that -guo contributes to the complement clause, thereby giving rise to unacceptability.

(25) a. *Zhāngsān bù quán Lǐsì [chī-guo yī-ge píngguǒ].
   Zhangsan NEG urge Lisi eat-EXP one-CL apple
   Intended: ‘Zhangsan didn’t urge Lisi to eat an apple.’

b. *Zhāngsān zài quán Lǐsì [chī-guo yī-ge píngguǒ].
   Zhangsan PROG urge Lisi eat-EXP one-CL apple
   Intended: ‘Zhangsan is urging Lisi to eat an apple.’

5If (24a) is paraphrased so that -guo is embedded in an adjunct to the complement clause, the sentence becomes grammatical, as in (i).

(i) Zhāngsān zài quán Lǐsì chī-guo hànábāo zài qù Měiguó.
   Zhangsan PROG urge Lisi eat-EXP hamburger then go America
   ‘Zhangsan is urging Lisi to go to America after having tried hamburgers.’

See the end of section 3.2 for discussion of such cases.
In other words, the matrix analysis of aspect-under-control makes the same predictions as a special version of the embedded analysis wherein the aspect marker, although embedded, anchors to speech time. But these two analyses can be teased apart by the paradigm in (26), in a way that favors the matrix analysis. The crucial manipulation here relies on the fact that although matrix progressive ʐài gives rise to a ‘default’ present tense interpretation, this default can be overridden by temporal adverbials, as illustrated in (26a). (26b) establishes that this same fact holds when the matrix verb is ʐuàn ‘urge’. Against this backdrop, the key minimal pair is in (26c–d). (26c) shows that the ban on combining progressive and experiential aspect persists even in a past tense context. Crucially, (26d) is also ungrammatical, which is predicted by the matrix analysis but not predicted by the anchor-to-speech-time version of the embedded analysis. On the matrix analysis, the ungrammaticality of (26d) follows from whatever principle renders (26c) ungrammatical. But on the anchor-to-speech-time version of the embedded analysis, the expectation is that as long as the matrix clause has the right temporal properties to satisfy the requirement that the urging event happen prior to the event corresponding to the urged state of affairs, the sentence should be grammatical. The ungrammaticality of (26d) thus suggests that the matrix analysis is to be preferred over the embedded analysis.

(26) a. zuótiān xiàwǔ Zhāngsān zài chī yi-ge píngguǒ.
yesterday afternoon Zhangsan PROG eat one-CL apple
‘Yesterday afternoon Zhangsan was eating an apple.’

b. zuótiān xiàwǔ Zhāngsān zài quàn Lísi chī yi-ge píngguǒ.
yesterday afternoon Zhangsan PROG urge Lisi eat one-CL apple
‘Yesterday afternoon Zhangsan was urging Lisi to eat an apple.’

c. *zuótiān xiàwǔ Zhāngsān zài quàn-guo Lísi chī yi-ge píngguǒ.
yesterday afternoon Zhangsan PROG urge-EXP Lisi eat one-CL apple

d. *zuótiān xiàwǔ Zhāngsān zài quàn Lísi chī-guo yi-ge píngguǒ.
yesterday afternoon Zhangsan PROG urge Lisi eat-EXP one-CL apple
To sum up the discussion in this subsection: the embedded analysis of aspect-under-control raises nontrivial questions about the temporal contribution of the embedded aspect marker. Three \textit{a priori} possibilities are that it anchors to matrix time, to a time internal to the complement clause, or to speech time. But each of these three options raises problems. Consequently, I conclude that the matrix analysis is superior.

3. The Control-Aspect Correlation

3.1 Generalizing across Embedding Predicates

3.1.1 Other object-control predicates

The phenomenon observed above is not unique to \textit{quàn} ‘urge’ but is found as well with a wide range of other object-control predicates, including those listed in (27).

$\{\text{ānpái} \text{ ‘arrange’}, \text{bǐ} \text{ ‘(try to) force’}, \text{bǐpò} \text{ ‘(try to) force’}, \text{mìnglíng} \text{ ‘command’}, \text{pòshǐ} \text{ ‘(try to) force’}, \text{qǐng} \text{ ‘invite’}, \text{tuō} \text{ ‘entrust’}, \text{yàoqǐng} \text{ ‘invite’}, \text{yāoqiū} \text{ ‘request’}, \text{yǔnxì} \text{ ‘permit’}, \text{zhǔnxì} \text{ ‘permit’}\}$

For all of these predicates, \textit{-guo} can appear in the matrix clause (28a) or in the embedded clause (28b), and the matrix status of the embedded variant is supported by the familiar tests schematized in (29): incompatibility with matrix \textit{bu} negation, matrix progressive, and matrix habituality.

(28) a. Zhāngsān \textbf{VERB-\textit{guo}} Lǐsì [chī yi-ge píngguǒ].
Zhangsan \textit{-EXP} Lisi eat one-CL apple
‘Zhangsan \textit{VERB-ed} Lisi to eat an apple.’

b. Zhāngsān \textbf{VERB} Lǐsì [chǐ-\textit{guo} yi-ge píngguǒ].
Zhangsan Lisi eat-\textit{EXP} one-CL apple
‘Zhangsan \textit{VERB-ed} Lisi to eat an apple.’ (where \textit{VERB} $\in$ (27))

(29) a. *Zhāngsān \textbf{bu} \textit{VERB} Lǐsì [chǐ-\textit{guo} yi-ge píngguǒ].
Zhangsan \textit{NEG} Lisi eat-\textit{EXP} one-CL apple

b. *Zhāngsān \textbf{zài} \textit{VERB} Lǐsì [chǐ-\textit{guo} yi-ge píngguǒ].
Zhangsan \textit{PROG} Lisi eat-\textit{EXP} one-CL apple
3.1.2 Subject-control predicates

Subject-control predicates split into two classes with respect to their behavior with -guo. Some subject-control predicates disallow -guo regardless of whether it is placed on the matrix verb or on the embedded verb. This is illustrated in (30) for gǎn ‘dare’ and kāishǐ ‘begin’.

(30) a. Zhāngsān gǎn{*-guo} chī{*-guo} yi-ge píngguǒ.
Zhangsan dare-EXP eat-EXP one-CL apple
‘Zhangsan dared to eat an apple.’

b. Zhāngsān kāishǐ{*-guo} chī{*-guo} yi-ge píngguǒ.
Zhangsan begin-EXP eat-EXP one-CL apple
‘Zhangsan began to eat an apple.’

These facts fit the overall pattern: on the matrix analysis of aspect-under-control, whatever principle rules out matrix aspect placement also rules out embedded aspect placement.

For other subject-control predicates, however, there is inter-speaker variation with respect to the acceptability of -guo in the matrix clause, while -guo in the embedded clause remains consistently unacceptable across speakers.

(31) a. Zhāngsān dàsuàn{%-guo} chī{*-guo} yi-ge píngguǒ.
Zhangsan plan-EXP eat-EXP one-CL apple
‘Zhangsan planned to eat an apple.’

b. Zhāngsān zhǔnbèi{%-guo} chī{*-guo} yi-ge píngguǒ.
Zhangsan prepare-EXP eat-EXP one-CL apple
‘Zhangsan got ready to eat an apple.’

c. Zhāngsān juédìng{%-guo} chī{*-guo} yi-ge píngguǒ.
Zhangsan decide-EXP eat-EXP one-CL apple
‘Zhangsan decided to eat an apple.’

d. Zhāngsān qǐtú{%-guo} chī{*-guo} yi-ge píngguǒ.
Zhangsan try-EXP eat-EXP one-CL apple
‘Zhangsan tried to eat an apple.’
Although it will be beyond the scope of this paper to explain why these particular subject-control predicates should behave in this manner, the analysis developed will be able to accommodate them. In particular, the analysis of aspect placement in section 5 results in a system whereby if an aspectual suffix can be generated on the matrix verb, it can also be generated on the embedded verb, and vice versa, thereby threatening to overgenerate for those speakers who accept matrix aspect placement in (31). But in section 6.1, I show that embedded aspect placement is predicted to be unavailable if the matrix control verb enters the derivation with an aspectual feature that intervenes for the agreement relation between the matrix aspectual head and the embedded verb. Thus we can account for these facts via the proposal that for some speakers, some subject-control verbs enter the derivation with an aspectual feature that intervenes to prevent embedded aspect placement. Although this is a technical solution and not an explanation, it bears emphasizing that the facts in (31) do not threaten the central empirical claim of the paper that aspect marking in Mandarin controlled complements is never interpreted locally to the embedded clause.

3.1.3 Non-control predicates

In non-controlled complement clauses, -guo in the embedded clause is locally interpreted, instantiating embedded aspect. This is evidenced by the compatibility between an embedded instance of -guo and an matrix instance of the negative marker bu, as illustrated in (32) for a representative sample of non-control predicates.

(32) a. Zhāngsān bù VERB [Lǐ sī chǐ-guo yī-ge píngguǒ].
   Zhangsan NEG Lisi eat-EXP one-CL apple
   ‘Zhangsan doesn’t VERB that Lisi ate an apple.’ where VERB ∈ (32b)

   b. VERB ∈ {jìde ‘remember’, rènwèi ‘believe’, shuō ‘say’, xīwàng ‘hope’, zhīdào ‘know’}

3.2 Generalizing across Aspect Markers

3.2.1 Perfective -le

Aside from -guo, the perfective aspect marker -le also appears in controlled complements and also displays properties that betray its matrix status. (33b)–(33e) show that similarly to -guo,
perfective -le is ungrammatical when it co-occurs clause-locally with the negation marker bu, the progressive marker zài, the habitual adverb měi-tiān ‘every day’, or another instance of verb-final -le, respectively.\footnote{In this section, I change the embedded verb from chī ‘eat’ to mǎi ‘buy’ in all of the data because with a handful of verbs including verbs of consumption or destruction like chī ‘eat’, -le can be used like the resultative verbal complement diào (literally, ‘drop’/’fall’/’lose’), indicating total consumption, destruction, etc. (see Lü 1999:352), in which case it is most likely much lower in the structure than Asp. I thank an anonymous reviewer for drawing my attention to this fact.}

(33) a. Zhāngsān mǎi-le yī-ge píngguō.
Zhangsan buy-PRF one-CL apple
‘Zhangsan bought an apple.’

b. *Zhāngsān bu mǎi-le yī-ge píngguō.
Zhangsan NEG buy-PRF one-CL apple

c. *Zhāngsān zài mǎi-le yī-ge píngguō.
Zhangsan PROG buy-PRF one-CL apple

d. *Zhāngsān měi-tiān mǎi-le yī-ge píngguō.
Zhangsan every-day buy-PRF one-CL apple

e. *Zhāngsān mǎi-le-le yī-ge píngguō.
Zhangsan buy-PRF-PRF one-CL apple

Turning to aspect-under-control, (34b)–(34e) confirm that we find the same patterning when -le is embedded under the object-control predicate quàn ‘urge’. (And the same judgments hold for other object-control predicates such as bǐ ‘(try to) force’, mǐnglìng ‘command’, pòshī ‘(try to) force’, tuō ‘entrust’, yāoqū ‘request’, yǔnxī ‘allow’.)

(34) a. Zhāngsān quàn Lǐsì mǎi-le yī-ge píngguō.
Zhangsan urge Lisi buy-PRF one-CL apple
‘Zhangsan urged Lisi to buy an apple.’

Zhangsan NEG urge Lisi buy-PRF one-CL apple
c. *Zhāngsān zài quàn Lǐsī mǎi-le yi-ge píngguǒ.  
Zhangsan PROG urge Lisi buy-PRF one-CL apple

d. *Zhāngsān měi-tiān quàn Lǐsī mǎi-le yi-ge píngguǒ.  
Zhangsan every-day urge Lisi buy-PRF one-CL apple

e. *Zhāngsān quàn-le Lǐsī mǎi-le yi-ge píngguǒ.  
Zhangsan urge-PRF Lisi buy-PRF one-CL apple

Apparently problematic for the matrix analysis of the aspect marker -le in sentences like (34a) is that when -le is placed overtly in the matrix clause, the result is ungrammatical (35). However, the ungrammaticality of (35) in fact relates to a much more general constraint in Mandarin that bans aspectual -le on verbs taking clausal complements. As illustrated for the non-control verbs fōurèn ‘deny’, gāosù ‘tell’ and shuō ‘say’ in (36)–(38), the same verb will either disallow or allow -le depending on whether its complement is clausal (as in the (a) examples) or nominal (as in the (b) examples). The same patterning is found with control verbs, as seen in (39) for zhùnbèi ‘prepare’.

(35) *Zhāngsān quàn-le Lǐsī chī yi-ge píngguǒ.  
Zhangsan urge-PRF Lisi eat one-CL apple  
‘Zhangsan urged Lisi to eat an apple.’

(36) a. tā fōurèn(*-le) [tā zuò-cuò-le zhèi-jìàn shì].  
3SG deny-PRF 3SG do-err-PRF this-CL matter  
‘He denied that he handled this matter wrongly.’

b. tā fōurèn(-le) [zhèi-ge cuòwù].  
3SG deny-PRF this-CL mistake  
‘He denied this error.’ (Paul 2005b:377–378)

(37) a. tā gāosù(*-le) wǒ [nǐ yě cānjíā-le sān cì huì].  
3SG tell-PRF 1SG 2SG also attend-PRF three time meeting  
‘He told me that you attended three meetings too.’

b. tā gāosù(-le) wǒ nǐ-de gùshì.  
3SG tell-PRF 1SG 2SG-GEN story  
‘He told me your story.’ (Paul 2005b:378)

(38) a. tā shuō(*-le) tā zuò-cuò-le zhèi-jìàn shì.  
3SG say-PRF 3SG do-err-PRF this-CL matter  
‘He said that he handled the matter wrongly.’
b. tā shuō(-le) jī jù huà.
3SG say-PRF several sentence speech
‘He said a few words.’

(39) a. tā zhūnbèi(*-le) chī wǎn-cān.
3SG prepare-PRF eat evening-meal
‘He got ready to eat dinner.’
b. tā zhūnbèi(-le) wǎn-cān.
3SG prepare-PRF evening-meal
‘He prepared dinner.’

Taken together, the facts suggest that -le cannot be left-adjacent to a complement clause at Spell-Out. Although I will not attempt an explanation of this constraint here, I take it that this is the generalization responsible for the contrast between (34a) and (35).

In contrast with object-control predicates, subject-control predicates generally disallow -le regardless of whether it is placed at the matrix or at the embedded level, as illustrated in (40) for juédìng ‘decide’. (The same judgments hold for other subject-control predicates like dāsuàn ‘plan’, gān ‘dare’, qītú, ‘try’, zhūnbèi ‘prepare’.) What this suggests is that subject-control predicates are incompatible with perfective -le for reasons that are independent of the general ban on -le being left-adjacent to a complement clause.

(40) Zhāngsān juédìng{*-le} mǎi{*-le} yi-bēn shū.
Zhangsan decide-PRF buy-PRF one-CL book

A few words are also in order on -guo/-le interaction. Four out of 14 informants consulted accept sentences like (41a) wherein matrix -guo co-occurs with embedded -le. This likely relates to the fact that -guo and -le can co-occur on the same verb in a monoclausal configuration, as long as they occur in that order, as observed by Gu (1993) and illustrated in (41b). By contrast, all informants consulted reject (42) wherein -le is found in the matrix clause and -guo in the embedded clause, which reinforces the generalization that -le can never be left-adjacent to a complement clause.
(41)  a. %ta quàn-guo Lísi chǐ-le yi-ge píngguǒ.
    he urge-PRF Lisi eat-PRF one-CL apple
    ‘He urged Lisi to eat an apple.’

    b. tā chǐ-guo-le yi-ge píngguǒ.
    he eat-EXP-PRF one-CL apple
    ‘He ate an apple.’

(42)  *ta quàn-le Lísi chǐ-guo yi-ge píngguǒ.
    he urge-PRF Lisi eat-PRF one-CL apple
    ‘He urged Lisi to eat an apple.’

3.2.2 Perfective yǒu

Another kind of aspectual configuration in Mandarin involves yǒu, which surfaces together with
the negative morpheme méi, and when not accompanied by other aspectual marking, gives rise to
a perfective interpretation, as illustrated in (43a). The marker yǒu is ungrammatical in controlled
complements regardless of whether the negative marker appears in the matrix clause (43b) or the
embedded clause (43c). (See also Li 1985:45 and Huang 1989:190 for similar data and argumentation.)
Furthermore, the ungrammaticality of (43c) has to be attributed to the position of yǒu
rather than to the position of negation, because as seen in (43d), negation under control is in prin-
ciple available. In a non-controlled complement, by contrast, embedded yǒu is grammatical and is
interpreted locally to the complement clause, as illustrated in (44).

(43)  a. Zhāngsān méi-yǒu quàn Lísi chǐ yi-ge píngguǒ.
    Zhangsan NEG-PRF urge Lisi eat one-CL apple
    ‘Zhangsan did not urge Lisi to eat an apple.’

    b. *Zhāngsān méi quàn Lísi yǒu chǐ yi-ge píngguǒ.
    Zhangsan NEG urge Lisi PRF eat one-CL apple

    c. *Zhāngsān quàn Lísi méi-yǒu chǐ yi-ge píngguǒ.
    Zhangsan urge Lisi NEG-PRF eat one-CL apple

    d. Zhāngsān quàn Lísi bu chǐ yi-ge píngguǒ.
    Zhangsan urge Lisi NEG eat one-CL apple
    ‘Zhangsan urged Lisi not to eat an apple.’
(44) Zhāngsān shuō Lísi mēi-yǒu chī yi-ge píngguǒ.  
Zhangsan say Lisi NEG-PRF eat one-CL apple  
‘Zhangsan says that Lisi did not eat an apple.’

3.2.3 **Progressive zài**

The progressive marker zài is grammatical in non-controlled complement clauses (45), but ungrammatical in both subject-controlled (46) and object-controlled complement clauses (47).

(45) Zhāngsān xīwàng/qǐdāi/yǔliào[míngtiān wǎnshàng dāng Lísi huí jiā shí,  
Zhangsan hope/expect/predict tomorrow evening when Lisi return home time  
Wángwǔ zài zuò zuòyuè].  
Wangwu PROG do homework  
‘Zhangsan hopes/expects/predicts that when Lisi returns home tomorrow evening, Wangwu will be doing his homework.’

(46) Zhāngsān zhǔn/bǐ/shuōfu Lísi[míngtiān wǎnshàng dāng Wángwǔ huí jiā shí, PRO  
Zhangsan prepare/plan/decide tomorrow evening when Lisi return home time  
(*)zài zuò zuòyuè].  
PROG do homework  
‘Zhangsan prepared/planned/decided to do (be doing) his homework when Lisi returns home tomorrow evening.’

(47) Zhāngsān quàn/bǐ/shuōfu Lísi[míngtiān wǎnshàng dāng Wángwǔ huí jiā shí, PRO  
Zhangsan urge/press/convince Lisi tomorrow evening when Lisi return home shí, PRO (*)zài zuò zuòyuè].  
time PROG do homework  
‘Zhangsan urged/pressed/convincied Lisi to do (be doing) his homework when Wangwu returns home tomorrow evening.’

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7Progressive zài is homophonous with (though orthographically distinguished from) another morpheme meaning ‘again’. (46)–(47) are grammatical with zài when zài is understood as ‘again’. However, it is also possible to disambiguate in favor of the progressive meaning by using the expanded form of the progressive marker zhèngzài, which renders (46)–(47) unambiguously ungrammatical.
3.2.4 *Durative* -zhe

The final aspect marker I will consider is *-zhe*. As documented by Li and Thompson (1981):219, for some speakers of Mandarin, *-zhe* co-occurs with sentence-final particle *ne* and optionally with preverbal *zài* to indicate progressive aspect, fulfilling the same function as stand-alone progressive *zài*.

(48) Zhāngsān (zài) dā-zhe Lǐsī ne.
Zhangsan PROG hit-DUR Lisi PRT
‘Zhangsan is hitting Lisi.’ (Li and Thompson 1981:219)

Correspondingly, according to an anonymous reviewer, *-zhe* also exhibits aspect-under-control behavior, as in (49a), which is synonymous with (49b).

(49) a. wǒ (zài) wèi tā [chī-zhe fàn] ne.
1SG PROG feed 3SG eat-DUR meal PRT
‘I am feeding him a meal.’

b. wǒ zài wèi tā [chī fàn] ne.
1SG PROG feed 3SG eat meal PRT
‘I am feeding him a meal.’

*-zhe* also has another function, co-occurring with verbs of posture or physical disposition to indicate “the ongoing posture or physical disposition of an entity at a location” (Li and Thompson 1981:219). With such verbs, we find apparent counterexamples to the matrix analysis of aspect-under-control, as in the following sentence from Huang 1994b:29, where the matrix clause is construed with perfective rather than progressive aspect and *-zhe* is construed with the embedded verb of posture.

(i) wǒ měi-yǒu jiào tā kào-zhe qiáng.
I NEG-PRF order him lean-DUR wall
‘I did not ask him to lean against the wall.’ (Huang 1994b:29)

I hypothesize that when *-zhe* combines with a verb of posture or physical disposition, it signals INNER ASPECT, a category proposed by Travis (2010) for a class of aspectual morphemes that project below vP.
3.3 Summary

Summarizing the results of the paper so far is the descriptive claim in (50).

(50) **The control-aspect correlation**: In Mandarin, an aspect marker in a controlled complement clause — when grammatical at all — instantiates matrix aspect, whereas an aspect marker in a non-controlled complement clause instantiates embedded aspect.

The goal of the rest of this paper is to derive this correlation as a by-product of how the syntax of control interacts with the syntax of aspect placement. First, though, I would like to briefly raise an apparent counterexample to the generalization in (50). In (51), the aspect marker -guo in the complement clause is not a projection of matrix aspect: rather, internally to the complement clause, it has the semantic function of temporally ordering Lisi’s (hypothetical) eating time before Lisi’s (hypothetical) leaving time (see Pan and Lee 2004:note 1 for brief discussion of this function of -guo outside control contexts).

(51) Zhāngsān quán Lǐsì [chī-guo fàn zài zǒu].
Zhangsan urge Lisi eat-EXP meal then leave
‘Zhangsan urged Lisi to leave after eating.’

In the following section, I will argue that part of the explanation for the generalization in (50) is that in Mandarin, controlled complements are vPs that do not project Asp. This entails that aspect cannot project in the main spine of the complement clause, but nothing prohibits an aspectual projection from being ‘sneaked in’ by adjoining to vP a phrase that has enough structure to support Asp. This is precisely what happens in (52): chī-guo fàn ‘eat-EXP meal’ constitutes a clausal adjunct to the complement clause, and that adjunct projects at least to AspP. Consequently, this kind of counterexample is innocuous.\(^9\) (See also section 2.5 above for data showing that when

\(^9\) An anonymous reviewer notes that the availability of the adjunct in the controlled complement is problematic for the view that controlled complements project only to vP, if one adopts Cinque’s (1999) proposal that adjuncts are licensed in the specifier positions of functional heads above vP. See Bobaljik 2002 for an argument against the
sentences like (51) are paraphrased so that -guo attaches to the main verb of the complement clause, the sentence is ungrammatical.)

4. The Syntax of Control

The control-aspect correlation observed above leaves us with two analytical questions:

\[(52) \quad \text{a. Why can’t an aspect marker in a controlled complement instantiate embedded (local) aspect?} \]
\[(52) \quad \text{b. Why can an aspect marker in a controlled complement sometimes instantiate matrix aspect?} \]

I address (52a) in this section and (52b) in the next. I propose to answer (52a) by appealing to the split in (53): control predicates in Mandarin take vP complements, whereas non-control clause-embedding predicates take CP complements. On this view, the reason aspect can never be instantiated in a controlled complement is because controlled complements do not project to AspP.

\[(53) \quad \text{a. } \begin{array}{c} \text{VP} \\ V_{control} \end{array} \quad \text{b. } \begin{array}{c} \text{VP} \\ V_{non-control} \end{array} \quad \text{CP} \]

Following Paul (2005a), I take it that Mandarin clause structure involves (at least) the projections in (54), where (following Paul in taking Belletti’s (2004) similar proposal for Italian and applying it to Mandarin) left peripheral Topic and Focus positions are mirrored by ‘Inner’ Topic and Focus positions in what Belletti and Paul call the “low IP area”. In what follows, IP plays a purely syntactic role, Case-licensing the subject. I remain neutral on whether it contributes to temporal meaning; see Sybesma 2007 and Lin 2010 for discussion.

\[(54) \quad \text{CP} > \text{TopP} > \text{FocP} > \text{IP} > \text{InnerTopP} > \text{InnerFocP} > \text{AspP} > \text{vP} \]

Cinque-style approach to adjunction, and see Grano 2012b, sect. 4.5 for Mandarin-specific evidence against such an approach.
Given this picture of Mandarin clause structure, independent evidence for (53) comes from a split between controlled and non-controlled complements in the availability of inner topicalization, observed by Fu (1994); Lu (1994); Ernst and Wang (1995). Following Paul (2005a), inner topicalization involves DP-movement to [Spec,InnerTopP]. The crucial data are in (55)–(56), adapted from Lu (1994); Ernst and Wang (1995) but expanded to show that the facts hold for a representative sample of both object-control verbs (55) and subject-control verbs (56).

(55)  Wángwú {nà-běn xiǎoshuō} bǐ/quàn/shuōfu/yǔnxú  [Lǐsì {*nà-běn xiǎoshuō}
      Wangwu that-CL novel force/urge/convince/allow Lisi that-CL novel
      dú-wán  {nà-běn xiǎoshuō}].
      read-finish that-CL novel
      ‘Wangwu forced/urged/convincedit allowed Lisi to finish reading that novel.’

(56)  Wángwú {nà-běn xiǎoshuō} dàsuàn/juédìng/zhūnbèi/qǐtú/dāyìng [{*nà-běn
      Wangwu that-CL novel plan/decide/prepare/try/promise that-CL
      xiǎoshuō} dú-wán  {nà-běn xiǎoshuō}].
      novel read-finish that-CL novel
      ‘Wangwu planned/decided/prepared/tried/promise to finish reading that novel.’

We see in (55)–(56) that in control configurations, the direct object of the embedded verb may appear in matrix [Spec,InnerTopP], but may not appear in (what would be) [Spec,InnerTopP] of the controlled complement. This follows on the view that controlled clauses are bare vPs and thus do not project InnerTopP: the only InnerTopP in the sentence projects at the matrix level, and this is where the DP moves to. By contrast, (57) involves a non-controlled complement clause. Here, the direct object of the embedded verb can appear in embedded [Spec,InnerTopP], and in fact, movement as far as matrix [Spec,InnerTopP] results in ungrammaticality. These facts follow on the view that non-controlled complement clauses can project to CP, and the simplest view is that they always do. (Paul suggests that the reason for the asymmetry is that controlled clauses are nonfinite and nonfinite clauses “lack the functional architecture” that finite clauses have. The analysis suggested here is similar, but simpler: no appeal to a finite/nonfinite distinction is necessary, only a difference in complement size. In a similar vein, Ernst and Wang (1995) take data like (55)–(56) as evidence
for “clause union” in Mandarin controlled complements, whereby “matrix and embedded complement together display some properties of a single clause” (p. 245). The analysis suggested here is in a similar spirit in the sense that the whole sentence involves only one projection of InnerTopP.)

\[(57)\]  
\[\text{Wāngwǔ \{*nà-běn xiāoshuō\} shuō \{Līsì \{nà-běn xiāoshuō\} dū-wán-le \{nà-běn xīaoshuō\}\}].\]

‘Wangwu said that Lisi finished reading that novel.’ (cf. Lu 1994; Ernst and Wang 1995)

Additional evidence for the CP status of non-controlled complements comes from the availability of embedded clause-final le, as in examples like the following, adapted from Paul 2011:

\[(58)\]  
\[\text{tā rènwéi [ \{Līsì bù yào qù Bēijīng \} le \}.}\]

‘He thinks that Lisi does not want to go to Beijing anymore.’

In (58), le indicates change of state (signaled by anymore in the English free translation). This change of state is part of the content of the reported belief, indicating that le is part of the complement clause. On the view that clause-final particles like le are projections of C, data like (58) establish that non-controlled complement clauses in Mandarin may project CP.\(^10\)

I now turn to discussion of how the vP/CP split in complement size relates to the distribution of control. On the view that controlled clauses involve PRO subjects and PRO can occur only in non-Case positions (Bouchard 1984), what is important to the analysis here is that vP does not have the structure needed to assign Case to its [Spec,vP] subject.\(^11\) Therefore, a verb taking a bare vP

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\(^10\)More precisely, Paul (2011) argues for a ‘split CP’ structure for Mandarin whereby sentence-final particles occupy three positions hierarchically related as AttitudeP > ForceP > LowCP. For Paul, clause-final le instantiates LowCP. Some sentence-final particles such as polar interrogative ma (which for Paul projects ForceP) cannot be embedded, suggesting that complement CPs do not project as much structure as do matrix CPs.

\(^11\)I thus depart here from the view that PRO bears null Case (Chomsky and Lasnik 1993; Bošković 1997; Martin 2001), and from recent attempts to divorce the distribution of PRO from Case altogether (see especially Landau...
complement will — in the absence of ECM or raising-to-object\textsuperscript{12} — force [Spec,\(vP\)] to be occupied by \(PRO\), as in (59). (Of course, \(V_{control}\) will project its own matrix clausal architecture, including a nominative Case assigner. But in-situ Case assignment from the matrix clause will always be precluded by the intervening matrix subject.) In contrast, when a verb takes a CP complement, the embedded subject receives Case the same way matrix subjects do: from I, as in (60). This account thus rejects Lin’s (2011) suggestion that Mandarin lacks abstract Case, following instead Li 1985, 1990, 2008; Huang, Li, and Li 2009 in taking Mandarin to have Case and following in particular Li 1985, 1990; Huang 1982, 1989; Ernst 1994 in taking Mandarin \(PRO\) to be licensed in Caseless environments. See also Grano and Kennedy 2012 for evidence from comparative constructions that Mandarin has abstract Case.

(59) 
\[
[VP \ V_{control} [vP PRO/^DP[Case:]] v \ldots ]
\]

(60) 
\[
[VP \ V_{non-control} [CP \ldots [IP \ DP[Case:NOM/^PRO I \ldots ]]]]
\]

Before closing this section, a note is in order on an apparent problem for the view that Mandarin controlled complements are \(vPs\) that cannot Case-mark their subject. Xu (2003) presents data like (61) to argue that control verbs in Mandarin can have overt embedded subjects as long as the embedded subject includes the controller semantically. (See also similar examples by Hu et al. 2001 involving other subject control verbs \(zh\text{\`u}n\text{\`e}i\) ‘prepare’ and \(d\text{\`a}su\text{\`a}n\) ‘plan’, as well as object control verbs \(qu\text{\`a}n\) ‘urge’, \(b\text{\`i}\) ‘force’, \(q\text{\`i}ng\) ‘invite’, and \(ji\text{\`a}o\) ‘ask’.)

(61) 
\[
t\text{\`a} z\text{\`a}i sh\text{\`e}f\text{\`a} [l\text{\`a}opo, z\text{\`i}\text{\`i} j\text{\`e} \text{\`e}r\text{\`i} y\text{\`i}qi\text{\`i} y\text{\`i}m\text{\`i}n].
\]
\[
\text{PROG try wife himself and son together immigrate}
\]
\[
‘He is trying to have his wife, himself and his son immigrate together.’ (Xu 2003:90–91)
\]

\textsuperscript{12}Li (1990) argues that Mandarin lacks ECM. But given the existence of small clauses in Mandarin (Gu 2008), it is conceivable that small-clause-taking verbs in Mandarin combine with \(vPs\) but differ from control predicates in also assigning Case to the subject of \(vP\).
According to an anonymous reviewer, however, 12 out of 15 polled native speakers judge (61) unacceptable. Some of these speakers report that the sentence is improved by inserting ràng ‘let’ immediately before the embedded subject, thereby reinstating a true control structure (‘He is trying [PRO to let/have his wife, himself and his son immigrate together].’) The reviewer suggests that perhaps “some speakers …allow for dropping ràng”, thereby rendering examples like (61) acceptable. On this view, the bolded constituent receives accusative Case from ràng, whose subject is non-Case-marked PRO.

An alternative possibility is that for those speakers who accept it, (61) exhibits two phenomena that are familiar from the control literature. The first is COPY CONTROL, wherein the controlled position in a control structure is overt, pronounced sometimes as a fully copy of the controller and sometimes as a resumptive pronoun (Polinsky and Potsdam 2006). The second is PARTIAL CONTROL, wherein the controlled position denotes a proper superset of the controller (Landau 2000). Working in the Movement Theory of Control, Rodrigues (2008) proposes that partial control arises when the subject of the controlled clause combines with a silent associative morpheme which it then strands when it moves into the matrix subject position. (61) may be amenable to a similar analysis, whereby the reflexive zìji is a resumptive copy of the matrix subject, which has vacated the coordinate structure, the resumption saving what would otherwise be a Coordinate Structure Constraint violation. Furthermore, the overtness of the embedded subject can be reconciled with the Caselessness of its position via Rodrigues’s (2008) suggestion that once one member of an A-chain receives Case, all the other members receive Case as well. Thus, the coordinate structure receives Case in virtue of being related via an A-chain to a DP sitting in a Case position.

In sum, there are two potential ways of analyzing (61) (for the minority of speakers who accept it) without giving up on the view that the subject position in a Mandarin controlled clause is caseless.
5. The Syntax of Aspect Placement

5.1 Taking Stock

Synthesizing the conclusions from the previous sections, we have the state of affairs schematized in (62)–(63). Matrix experiential aspect may be realized by suffixing -guo either on the matrix verb (62a)/(62c) or on the embedded verb of a (controlled) vP-complement (62b), but not on the embedded verb of a (non-controlled) CP complement (62d). Matrix progressive aspect, on the other hand, can only be realized by a matrix instance of zài (63a)/(63c), and cannot be realized by embedded zài, whether in a (controlled) vP (63b) or in a (non-controlled) CP (63d).

   c. Asp[EXP] . . . V-guo . . . [CP . . . V . . . ]


I propose to relate the contrast between -guo and zài to the fact that the former is a bound morpheme whereas the latter is a free morpheme. In particular, I take zài to be base-generated in Asp and to remain there throughout the course of the derivation; consequently, the ungrammaticality of (63b) and (63d) follows trivially from the fact that zài does not move to lower positions in structure. That this approach is on the right track is supported also by the fact that the preverbal marker yǒu — as discussed in section 3.2 above — also behaves like zài in being ungrammatical in controlled complements regardless of whether it is construed with the matrix clause or the embedded clause. Like zài, yǒu is base-generated in Asp and remains there throughout the course of the derivation. On the other hand, perfective -le (section 3.2.1) and durative -zhe (section 3.2.4) are both affixal and
generally behave like -guo. Yet an additional line of support comes from an anonymous reviewer’s observation that experiential aspect in Mandarin can also be conveyed by the preverbal marker céng, which is always ungrammatical in controlled complements (64). This observation supports the overall generalization that the only way to get non-locally interpreted material in a controlled complement is via a bound morpheme.

(64) * Zhāngsān quàn Lǐsì céng chí fān.
    Zhangsan urge Lisi EXP eat meal

Following Gu (1993), I assume that Mandarin does not have overt V-to-Asp movement. Consequently, what we now need is a theory of the syntax of -guo that ensures a dependency between a phonologically empty aspectual head and an overtly realized suffix on a verb lower in the structure. Such a theory is independently needed even for simple monoclusal configurations, but given the facts in (63), it is furthermore necessary that this dependency be able to cross into a (controlled) vP complement but not into a (non-controlled) CP complement. (65) sketches three a priori plausible analytical options and relates them to existing approaches for the similar analytical task of relating verbal tense and agreement morphology to Tense in English.13

(65) a. **(Overt) Lowering:** -guo is base-generated in Asp and (because it is affixal and needs a host) overtly lowers to V (see Wang 1965 for an early version of an approach in this spirit). [Cf. English T-to-V Lowering in Embick and Noyer 2001 and many others, all essentially building on Chomsky’s (1957) ‘Affix Hopping’.]

b. **Covert Raising:** -guo is base-generated on V. V-guo covertly raises to Asp at LF (Ernst 1995; Huang et al. 2009). [Cf. English covert V-to-T Raising (Chomsky 1993).]

c. **Agree:** -guo is base-generated on V and enters into an Agree relation with Asp. [Cf. English T-V Agreement (Pesetsky and Torrego 2007).]

13Because verb-final perfective -le has some particularly complicated properties (see section 3.2.1 above), I abstract away from it and focus the discussion only on -guo in what follows. However, because -guo and -le share the property of being affixal, I am optimistic that much of what I say here about -guo could carry over to -le as well.
The facts in (62) render the Overt Lowering approach unattractive. Displacing matrix Asp to a complement vP as in (62b) would require either suspending the strictly local character of Lowering (Embick and Noyer 2001) or allowing Lowering to operative successive-cyclically (Radford 2004:139). See also Gu (1993); Ernst (1995) for other concerns about the feasibility of the Overt Lowering approach to Mandarin aspect placement.

Similar concerns arise for the Covert Raising approach: the structure in (62b) would require either a suspension of the Head Movement Constraint (Travis 1984) or successive cyclic covert raising, an option which should be blocked by the overt material in the higher V position.

By contrast, the Agree option is in a position to accommodate the structure in (62b), provided that the locality requirements on Agree are not as stringent as the locality requirements on head movement.14 Consequently, this is the option I will pursue. Section 5.2 develops an Agree approach to aspect placement in simple monoclausal configurations; section 5.3 then shows how this approach carries over to biclausal configurations in a way that straightforwardly explains the facts in (62)–(63).

5.2 Aspect Placement in Monoclausal Configurations

I assume that the syntactic category Asp in Mandarin comes with an interpretable aspectual feature ‘A’. Values for A in Mandarin include at least PROG, PRF, and EXP. I follow Pesetsky and Torrego (2007); Bošković (2011); Wurmbrand (2012) in dissociating feature (un)interpretability from feature (non-)valuation (contra Chomsky 2001); consequently, interpretable features can enter the derivation unvalued. As schematized in (66), I propose that in Mandarin, Asp enters the derivation either without overt phonological material, in which case it is unvalued for A, or with phonological material (in particular, zài), in which case it is valued for A. (In the case of zài, the corresponding A value is PROG.) Verbs, in turn, enter the derivation either in bare form — in which case it has no

---

14Of course, this assumption is not obviously true: it may be that the Head Movement Constraint holds because Move is parasitic on Agree and Agree is banned when a (relevant) head intervenes. This would render the Covert Raising approach and the Agree approach equally plausible. Because nothing in the analysis hinges on the choice between Agree and Covert Raising, my choice of the Agree approach is adopted for the sake of concreteness.
A feature at all, as in (67a) — or aspectually suffixed, in which case it has an uninterpretable and valued A feature corresponding to that suffix, as in (67b).

(66)  
   a. Asp[i:A:]  
   b. Asp[i:A:PROG] zài

(67)  
   a. V  
   b. V-guo[uA:EXP]

These settings give rise to the derivations in (68)–(70). In (68), an interpretable unvalued aspectual feature on Asp co-occurs with an uninterpretable valued aspectual feature EXP on V-guo. A on Asp acts as a probe, ultimately valued as EXP via an Agree relation with V, and deleting the uninterpretable A feature on V-guo. (69) illustrates what happens when Asp enters the derivation as zài, valued for A. In (69a), the derivation crashes because there is nothing for the uninterpretable aspectual feature on V to enter into an Agree relation with: A on Asp is both interpretable and valued and hence does not trigger Agree. In (69b), by contrast, V enters the derivation without an aspectual feature, and so the derivation persists without an Agree relation. The last case to consider is one in which an unvalued aspectual feature on Asp co-occurs with an aspectually feature-less V. As schematized in (70), I propose that what happens in such situations is that A on Asp gets a ‘default’ value of NEUT, instantiating ‘neutral’ aspect in the sense of Smith 1991.\(^{15}\)

(68)  

(69)  

(70)  

\(^{15}\)An alternative approach that does not resort to default feature valuation would be to posit a silent Asp that comes with an interpretable valued A feature NEUT or a ‘covertly suffixed’ verb form V-Ø that comes with an uninterpretable valued A feature NEUT. The cost of such an alternative, though, is to give up on the correlation that otherwise obtains between whether an aspectual feature is valued when it enters the derivation and whether it corresponds to overt phonological material.
(68)–(70) accurately predict the syntax of aspect placement in monoclausal configurations, corresponding to sentences marked with -guo, marked with zài, or zero-marked, respectively.

5.3 Aspect Placement in Biclausal Configurations

Turning to biclausal configurations, the contrast that needs to be explained is the one schematized in (71)–(72): when a verb embeds a (controlled) vP complement, matrix Asp[iA:] can probe the matrix verb if that verb has an A value (71a) or the embedded verb if that verb has an A value (71b), but when a verb embeds a (non-controlled) CP complement, matrix Asp[iA:] may probe only the matrix V (72a) and not the embedded V, even if that V has an A value (72b).

(71)  a. Asp[iA:] [\(vP \ldots V\)-guo[uA:EXP] \(\ldots [vP \ PRO \ \ldots V \ldots ]\)]

b. Asp[iA:] [\(vP \ldots V \ldots [vP \ PRO \ \ldots V\)-guo[uA:EXP] \(\ldots ]\)]

(72)  a. Asp[iA:] [\(vP \ldots V\)-guo[uA:EXP] \(\ldots [CP \ldots V \ldots ]\)]

b. *Asp[iA:] [\(vP \ldots V \ldots [CP \ldots V\)-guo[uA:EXP] \(\ldots ]\)]

We can explain the contrast in grammaticality between (71b) and (72b) by means of the following two proposals:

(73)  a. Agree is subject to the Phase Impenetrability Condition (contra Bošković 2007 but following Wurmbrand 2012).

b. The Phase Impenetrability Condition is satisfied in (71b) but not in (72b).

This approach is compatible with any theory of phases that has (73b) as a consequence; here I sketch just one plausible version. In particular, the following three proposals are needed:
(74) a. Mandarin has V-to-v movement (Huang 1994a; Tang 1998; Li 2002).
    b. C and v are phase heads.
    c. Phase Impenetrability Condition: The complement to a phase head becomes inaccessible to further syntactic operations at the point in the derivation when the next highest phase head is merged (Chomsky 2001).

(75) is a schematic representation for an aspect-under-control structure, with a box around the portion of the structure that is inaccessible to further syntactic operations at the point in the derivation when the matrix aspectual head is merged in. There are two relevant phase heads in the structure: embedded v and matrix v. When matrix v is merged in, the complement to embedded v becomes inaccessible. But given V-to-v movement, the lower verb remains accessible to matrix Asp, so an Agree relation can be established.\textsuperscript{16}

\textsuperscript{16}As an alternative to the approach detailed here, an anonymous reviewer suggests an analysis of aspect-under-control in which the [V\textsubscript{1}…V\textsubscript{2}] sequence is reanalyzed as a complex predicate, which would have as a consequence that an aspectual suffix would appear after V\textsubscript{2}. Although not obviously wrong, such an approach would be redundant: because the aspectual suffix in a control configuration has the option of appearing on the matrix verb, the reanalysis would have to be optional. And yet the requirement of having a controlled subject and the ban on inner topicalization are indelible properties of the relevant predicates, so in the absence of reanalysis, the verb would still have to be analyzed as taking a vP complement. And vP complementation together with plausible phase-theoretic assumptions are sufficient to derive variable aspect placement, with no need to appeal to complex predicate formation.
Asp[və + V
vP
υ + V-guo[uA:EXP]\n
(75)

(76), by contrast, is a schematic representation of a biclausal configuration with a full CP complement. Here, there are three relevant phase heads: embedded \( v \), embedded C, and matrix \( v \). When matrix \( v \) is merged in, the complement to embedded C becomes inaccessible, so matrix Asp cannot enter into an Agree relation with the lower verb. This is what rules out (72b).\(^{17}\)

\(^{17}\)It bears noting that (71b) and (72b) differ from each other with respect to two properties: the size of the complement (\( vP \) or CP) and the status of the embedded subject (controlled or independent). The phase-theoretic account sketched here cares only about the former difference, and I choose this tack primarily because it relies on the most widely accepted view of phasehood. But of possible relevance here is that according to an anonymous reviewer, perception verb configurations in Mandarin do not allow for matrix aspect to be realized on the embedded verb. If the reviewer is correct about this and if perception verbs take \( vP \) complements in Mandarin as they are widely assumed to in English and other languages, the account sketched here makes a faulty prediction. I lack the space here to assess the reviewer’s empirical claim about Mandarin perception verbs, but suppose the claim is accurate. In that case, we would have two analytical options. The first is to hypothesize that perception verbs in Mandarin take CP complements. The second is to maintain the view that perception verbs take \( vP \) complements, but make alternative assumptions about phase theory so that the difference can be tied to the lack of control in perception configurations. If controlled subjects are PRO and PRO involves unvalued features, this could be achieved via the convergence-based view of phasehood, whereby phases are objects in which all unvalued features have been valued. See Wurmbrand 2011 for a suggestion along these lines.
Next, consider what happens when both verbs in a control structure enter the derivation suffixed. As discussed in section 2.4 above, some speakers judge sentences like (77) acceptable or marginally acceptable.

(77) %Zhāngsān quàn-guo Līsì [jiè-guo yān].
    Zhangsan urge-EXP Lisi stop-EXP smoke
    Intended: ‘Zhangsan urged Lisi to quit smoking.’

I propose that speakers who reject (77) do so because in their grammars, Asp does not have the feature [+multiple] in the sense of Hiraiwa 2000, thereby disallowing a one-to-many probe-goal relation and giving rise to ungrammaticality as in (78) due to the uninterpretable feature on the lower V that persists throughout the derivation. Speakers who accept this sentence, on the other hand, have grammars in which Asp does have the feature [+multiple], hence giving rise to grammatical Agree relations like in (79) whereby the matrix aspectual probe simultaneously enters into an Agree relation with two goals.

(78) *Asp[iA: ] [vP ... v+V-guo[uA:EXP] ... [vP PRO ... v+V-guo[uA:EXP] ... ] ]

(79) Asp[iA: ] [vP ... v+V-guo[uA:EXP] ... [vP PRO ... v+V-guo[uA:EXP] ... ] ]
On a final note, an anonymous reviewer observes that the durative aspectual suffix \(-zhe\) also participates in aspect-under-control structures, but differs in that it can optionally co-occur with the progressive marker \(z\text{ài}\) with no apparent difference in meaning. The variant with \(z\text{ài}\) raises the question of how the uninterpretable aspectual value associated with \(-zhe\) is deleted given that the aspectual feature on Asp is already valued.

(80)  wo (\(z\text{ài}\)) wèi tā chī-zhe fàn ne.
1SG PROG feed 3SG eat-DUR meal PRT
I am feeding him a meal.’

In fact, this question is orthogonal to aspect-under-control, because the same behavior is manifest in monoclausal configurations:

(81)  wǒ (\(z\text{ài}\)) chī-zhe fàn ne.
1SG PROG eat-DUR meal PRT
I am eating a meal.’

One possible solution is to modify the lexical entry for \(z\text{ài}\) so that its aspectual feature is unvalued (82b), and to enrich the inventory of verb types to include two that have an uninterpretable aspectual feature valued as PROG, one of which is a bare-form verb and one of which is suffixed with \(-zhe\). The availability of these two alternatives then captures the optionality in (80) and (81). The cost of this modification to the system, though, is that it gives up on the correlation between whether an aspectual feature is valued when it enters the derivation and whether it corresponds to overt phonological material. See also note 15.

(82)  a. Asp[iA:\_\_]
    b. Asp[iA:\_\_] \(z\text{ài}\)

(83)  a. V
    b. V[uA:PROG]
    c. V-zhe[uA:PROG]
    d. V-guo[uA:EXP]
6. Refinements and Elaborations

6.1 Accounting for Variation

As mentioned in note 1, there are three populations of Mandarin speakers that differ with respect to the status of sentences like (84).

(84) Zhāngsān quān Lǐsī chī-guō yī-ge píngguǒ.
Zhangsan urge Lisi eat-EXP one-CL apple
‘Zhangsan urged Lisi to eat an apple.’

For those speakers whose grammar has been the focus of this paper, (84) is grammatical and semantically neutral with respect to whether Lisi did or did not eat the apple in question, just like what happens when the aspect marker is found in the matrix clause instead of in the embedded clause. For other speakers, however, (84) does entail that Lisi ate the apple in question, unlike what happens when the aspect marker is found in the embedded clause. This is brought out by the availability of follow-up material that contradicts the embedded clause, as in (85). When the aspect marker is in the matrix clause, as in (85a), everyone agrees that the parenthetical material is not contradictory, but when the aspect marker is found in the embedded clause, as in (85b), there is inter-speaker variation in whether the parenthetical material is contradictory. This variation is reflected in previous literature on the topic, some scholars like Xu (1985–1986); Hu et al. (2001) reporting that sentences similar to (85b) are contradictory and others like Li (1985, 1990); Cheng (1989) reporting that they are not.

(85) a. Zhāngsān quān-guō Lǐsī chī yī-ge píngguǒ (kěshì Lǐsī bu kěn chī).
Zhangsan urge Lisi eat-EXP one-CL apple but Lisi NEG willing eat
‘Zhangsan urged Lisi to eat an apple, but Lisi was unwilling to eat it.’

b. Zhāngsān quān Lǐsī chī-guō yī-ge píngguǒ (% kěshì Lǐsì bu kěn chī).
Zhangsan urge Lisi eat-EXP one-CL apple but Lisi NEG willing eat
‘Zhangsan urged Lisi to eat an apple, but Lisi was unwilling to eat it.’

Finally, for yet a third group of speakers, (84) is ungrammatical altogether, regardless of its interpretation.
Although a full investigation of this point of variation is beyond the scope of this paper, the purpose of this section is to suggest a way of accounting for the variation in a way that would uphold for all three populations the proposal that Mandarin has no finite/nonfinite distinction and that controlled complements in Mandarin project only to \( vP \).

The first ingredient in the proposal is a point of variation in Mandarin verbal features. A crucial assumption in the account of aspect placement in section 5 was that in Mandarin, bare-form verbs come out of the lexicon with no aspectual feature, as in (86a). But it is also plausible that bare-form verbs could come out of the lexicon with an uninterpretable and unvalued aspectual feature, as in (86b). For a speaker whose grammar worked in the latter way, aspect-under-control structures are ruled out by intervention: as sketched in (87), the agreement relation cannot be established because the probe does not choose the structurally closest available goal.

\[(86) \]
\[\begin{array}{c}
\text{a. } V \\
\text{b. } V[uA:\_]
\end{array}\]

\[(87) \quad \text{*Asp[iA:\_]} \begin{array}{c}
\left[ vP \ldots V[uA:\_] \ldots [vP PRO \ldots \textbf{V-guo}[uA:EXP] \ldots ] \right]
\end{array}\]

This state of affairs is usefully contrasted with English, where evidently bare-form verbs always bear an unvalued uninterpretable tense feature, as evidenced by the fact that (to my knowledge) no speaker of English would accept (88b) as a paraphrase of (88a) by establishing a dependency between matrix tense and the embedded verb: the matrix verb always intervenes.

\[(88) \]
\[\begin{array}{c}
\text{a. } \text{John saw } [vP \text{ Bill leave}] \\
\text{b. } \text{*John see } [vP \text{ Bill left}].
\end{array}\]

The point of variation in (86) accounts for two of the three groups of speakers. For the remaining group of speakers, those who accept sentences like (84) but interpret it as entailing the truth of the complement clause, what I would like to suggest is that they have the setting in (86b) that blocks aspect-under-control, but their grammars afford an alternative way of parsing the relevant string
whereby the relationship between the two clauses is paratactic rather than hypotactic. Such an analysis is in fact anticipated by Chao’s (1968) distinction between pivotal sentences (in modern terminology, object-control sentences) and compressed (paratactic) sentences:

> A pivotal sentence is also to be distinguished from a compressed sentence. Thus, [wǒ qǐng tā (, tā) yè bu lái.] ‘I asked him (and he) wouldn’t come, either.’ is a compressed sentence, which is capable of being expanded by the insertion of /,/ and tā... (Chao 1968:125)

Accordingly, the paratactic parse of a sentence like (89a) can be (marginally) expanded into (89b), which makes the interpretational consequence of parataxis transparent: the content of the second clause is entailed because it is a matrix-level proposition joined via conjunction rather than being subordinated under the matrix verb.

(89)  
   a. wǒ qǐng tā chǐ-guo fàn.  
       1SG invite 3SG eat-EXP meal
   
   b. ?wǒ qǐng tā, tā chǐ-guo fàn.  
       1SG invite 3SG 3SG eat-EXP meal  
       ‘I invited him and he ate.’

This analysis also finds crosslinguistic support in Giannakidou and Staraki’s (2013) study of actuality entailments in Greek. These authors observe that some Greek control verbs can combine with the following clause via the coordinator ke ‘and’ rather than the ordinary subjunctive subordinating particle na, with the expected consequences for whether the complement clause is entailed, as illustrated in (90).

(90)  
   a. O Janis prospathise na pire to epidoma.  
       the John tried.PRF.PST.3SG SBJV take.PRF.PST.3SG the bonus  
       ‘John tried to get the bonus.’
   
   b. O Janis prospathise ke pire to epidoma.  
       the John tried.PRF.PST.3SG and take.PRF.PST.3SG the bonus  
       ‘John tried and got the bonus.’ (Giannakidou and Staraki 2013:261)
Crucially, if the paratactic analysis is right, then for the relevant group of speakers, the second clause in the aspect-under-control structure is not really a controlled clause at all but rather a conjunct in a coordinate structure that is free to host its own locally interpreted aspect marker, and so the claim that Mandarin controlled complements are vPs is not threatened. It bears emphasizing that the paratactic analysis remains a hypothesis — should it turn out to be incorrect, it could be that the observed variation points to a deeper difference in the grammars of the relevant populations. But the paper’s central theoretical lesson that it is possible for a grammar to instantiate control without finiteness contrasts would still be upheld, albeit potentially not for all varieties of Mandarin.

6.2 Embedded Modals

Aside from aspect markers, the distribution of modals has also been implicated in the debate over the existence of a finite/nonfinite distinction in Mandarin. Huang (1982, 1989) claims that one of the properties of Mandarin nonfinite clauses is that they disallow modals. In a related vein, Li (1985, 1990) argues that Mandarin modals huì and yào have become markers of future tense and that these are consequently disallowed in nonfinite clauses. Hu et al. (2001) (see also Huang 1994b), however, challenge this claim on the basis of the observation that although huì is disallowed in controlled complements (91a), yào — which, like huì, can be used to encode futurity in matrix contexts (92)— is allowed in controlled complements (91b).

(91)  
\begin{align*}
(91) & \\
a. & *wǒ quàn tā [huì lái]. \\
& \text{I urge he HUI come} \\
b. & wǒ quàn tā [yào lái]. \\
& \text{I urge he YAO come} \\
& \text{‘I urged him to come.’ (Hu et al. 2001:1123, cf. Li 1990:22)}
\end{align*}

(92)  
\begin{align*}
(92) & \\
a. & Zhihgsan hui lái. \\
& \text{Zhangsan HUI come} \\
& \text{‘It is possible that Zhangsan will come.’} \\
b. & Zhihgsan yao lái. \\
& \text{Zhangsan YAO come}
\end{align*}
‘Zhangsan will come.’ (Hu et al. 2001:1124)

To explain the contrast in acceptability between (91a) and (91b), Hu et al. (2001) draw on earlier work by Xu (1994) to suggest that the crucial difference between huì and yào is that the former expresses “an objective futurity or possibility” whereas the latter expresses “a subjective futurity and possibility” (p. 1124). They go on to suggest that this difference interacts with the semantics of the embedding predicate to produce a semantic incompatibility in (91a).

As an alternative analysis, I would like to suggest that the reason yào is acceptable in controlled complements is because it is an overt realization of woll, i.e., the future modal argued by Abusch (1985, 1988) and many others to be at the basis of English will and would. Wurmbrand (2014) argues that English future-oriented infinitival complements are projections of wollP headed by a silent woll, a proposal that receives crosslinguistic support from Gitxsan (Tsimshianic family, spoken in the northern part of British Columbia, Canada), which according to Jóhannsdóttir and Matthewson (2007); Matthewson (2011) has a morpheme dim whose distribution encompasses matrix absolute future contexts (cf. English will), matrix past-shifted future contexts (cf. English would), as well as relative future contexts in complement clauses. If this approach is on the right track, Mandarin is a language that optionally realizes woll in controlled complements as the morpheme yào, in contrast to its obligatorily covert realization in English future-oriented nonfinite complements and its obligatorily overt realization in Gitxsan. An implication of this proposal is that Mandarin future-oriented controlled complements project a bit more structure than just vP. But as long as woll projects just over vP, this is an innocuous revision: we still correctly predict that there is not enough structure to support a Case-marked subject, an inner topic, or an aspectual projection.

6.3 Other Putative Finite/Nonfinite Contrasts

One of the central claims in this paper is that all of those contrasts which in previous literature have been taken as evidence for a finite/nonfinite contrast can be reinterpreted as reflecting a contrast in complement size (CP vs. vP). Hu et al. (2001) argue that all alleged finite/nonfinite contrasts in Mandarin dissolve upon close scrutiny, but I have taken aim in this paper at substantiating three
such contrasts, namely, the distinction between controlled and non-controlled subjects, the availability of an embedded aspectual projection, and the availability of inner topicalization. In other potentially relevant work, Ting (2010), drawing on earlier work by Chiu (1995); Ting (2003), identifies a split between controlled and non-controlled complements in the behavior of the preverbal relative clause clitic suo. Although I will not pursue this matter here, I hypothesize that this split can also be modeled as reflecting a split in complement size.

In another vein, J. Lin (2011) offers a novel argument for the existence of a finite/nonfinite distinction in Mandarin. In particular, Lin argues that complements to the modal nêng ‘can’ are ineligible for clause-final le, inner topicalization, and progressive aspect marking, in contrast with complements to kênêng ‘may’, which bear none of these restrictions. Lin proceeds to develop an account of this asymmetry that builds on the idea that nêng combines with a nonfinite TP whereas kênêng combines with a finite TP. Although it would take us too far afield to fully assess Lin’s argumentation, the point I want to make here is simply that, to the extent that Lin’s proposals are valid, they can be straightforwardly recast into a system that replaces finiteness contrasts with complement size: if complements to nêng are vP, then the restrictions argued for by Lin follow trivially.

7. Conclusion
This paper has argued for one major empirical claim and two theoretical ones. The empirical claim is that aspect markers in controlled complements in some if not all varieties of Mandarin — when grammatical at all — are instantiations of matrix aspect. The evidence for this claim is that such aspect markers interact with properties of the matrix clause in ways that betray their matrix source. On the theoretical side, I argued that this state of affairs follows inevitably from how the syntax of control interacts with the syntax of aspect placement. In particular, the first major theoretical claim is that in Mandarin, controlled complements are vPs whereas non-controlled complements are CPs, a proposal which makes sense of the unavailability of (locally interpreted) aspect in controlled complements and which finds independent support in the lack of an Inner Topic position.
in controlled complements. The second major theoretical claim is that Mandarin (affixal) aspect markers like -guo begin their derivational life as verbal affixes that come with a valued but uninterpretable aspectual feature. They must enter into an Agree relation with an Asp head that has a valued but interpretable aspectual feature. As long as non-controlled CPs constitute phases but controlled vPs do not, these two theoretical proposals conspire to allow matrix aspect to be realized affixally in controlled complements but not in non-controlled complements, thereby capturing the observed facts.

From these conclusions, two theoretical implications are warranted. The first is that we do not need to appeal to a finite/nonfinite distinction in Mandarin Chinese to explain the observed contrasts between controlled and non-controlled complements; rather, all that is needed is a split in complement size. In this connection, I respond here to two reviewers who question this conclusion. One reviewer raises the possibility that the proposed CP/vP split inadvertently reintroduces the finite/nonfinite distinction, given that finiteness is contributed by some functional head above vP. Another reviewer suggests that languages vary in how they mark finiteness and that if finiteness is understood in general enough terms, the proposed CP/vP distinction is itself a finite/nonfinite distinction. In response to these points, I offer the English data in (93), which I believe gets at the heart of the matter. (93a) and (93b) differ in that the former has a (controlled) nonfinite complement whereas the latter has a finite complement, but they both project to CP, as evidenced by the fronted wh-element in both sentences.

(93)  
  a. John wondered [how to open the door].
  b. John wondered [how he could open the door].

The fact that both project to CP suggests that finiteness in English should be understood independently of complement size, as a featural contrast, usually taken to be located on T. And independent evidence for this featural contrast is that it interacts with verbal inflectional morphology. In Mandarin, by contrast, I am aware of no cases where a controlled complement evidences structure into the IP or CP layer, and consequently it is unnecessary to posit any feature analogous to the one
we have to posit for English. In other words, the substantive difference between English and Mandarin — regardless of how we choose to define ‘finiteness’ — is that what is achieved via a featural contrast in the former language is achieved via a structural size contrast in the latter language.

That being said, one caveat that is in order here relates to Haegeman’s (2004) suggestion — based on the distribution of topicalization — that English infinitival complements lack ForceP, a projection in Rizzi’s (1997) articulated CP architecture. This opens up the possibility that the [±finite] feature posited for English can actually be reduced to a structural size difference in whether ForceP is projected. If this is on the right track, it suggests the interesting hypothesis that there is a potentially universal notion of finiteness whereby nonfinite clauses have a smaller structure, but languages vary in just how small this structure is.

The second main theoretical implication of this paper’s conclusions is that, because vP does not have the structure to assign Case to its [Spec,vP] subject, the distribution of control in Mandarin is best accommodated in a Case-based approach to the distribution of control whereby PRO must appear in a non-Case position. Putting these two implications together, the lesson is that at least some of the crosslinguistic burden of explaining the distribution of control can be shifted away from contrasts in finiteness and related properties and onto other properties that interact with Case, viz., splits in complement size: CPs bring with them enough structure to Case-mark a subject whereas vPs do not. Given that finite/nonfinite contrasts are difficult to justify in Mandarin due to Mandarin’s lack of overt verbal tense or agreement morphology, this is a welcome result, and I believe that it would be worth pursuing this line of analysis for other languages that lack overt markers of finiteness.

In closing, a few words are in order on why Mandarin controlled complements should have a ‘truncated’ vP-only structure. It bears noting at the outset that this state of affairs is crosslinguistically well attested in the form of ‘restructuring’ or ‘clause union’ effects found in many languages. For example, clitic climbing in Italian (Rizzi 1978; Cardinaletti and Shlonsky 2004; Cinque 2006) and long passivization in German (Wurmbrand 2001; Lee-Schoenfeld 2007) have been analyzed as involving complementation with less than a CP at one or more levels of representation. See
also Cinque 2006:47, note 2 for references to similar ‘transparency’ effects in approximately 20 other languages and language families. There are many theoretical approaches to such effects on the market, but one approach which is particularly attractive in light of the present study of Mandarin is that espoused by Cinque (2006) because it has the property that restructuring predicates always take truncated complements regardless of whether transparency effects like clitic climbing obtain, which meshes well with the view taken here that control predicates in Mandarin always take \( vP \). Cinque’s approach also has the property that complements to restructuring predicates are (roughly speaking) \( vP \). For Cinque, restructuring predicates instantiate functional heads in the inflectional layer of the clause — heads independently motivated in the crosslinguistically regular positioning of semantically corresponding adverbs and inflectional affixes (Cinque 1999) — and their complements realize \( vP \)s in what are monoclausal configurations. That being said, one of the consequences of Cinque’s view is that restructuring predicates should be auxiliary-like in not assigning thematic roles, essentially behaving like raising predicates. Grano (2012a) shows how to reconcile a ‘raising’ syntax with a ‘control’ semantics for subject-control restructuring predicates like \textit{try} and \textit{want} via the proposal that such predicates incorporate a silent variable which gets bound by the raised subject. But it is not clear how such an approach would extend to object-control predicates like Mandarin \textit{quàn} ‘urge’ which have played a central role in this paper and which appear to have a thematic dependency with not one but two DPs. An approach to restructuring along the lines of Wurmbrand 2001 does not face this challenge, since for Wurmbrand, lexical verbs with ordinary thematic properties can take truncated complements. But a Wurmbrand-style approach raises questions about why \( vP \)-complementation would be obligatory for Mandarin control predicates and about the deeper reasons that underlie complementation choice. Consequently, I leave it to future work to embed the results of this paper into a more comprehensive theory of complementation.

References


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