

Controlling overt subjects in Mandarin

Daoxin Li*

Abstract. Overt controlees have been observed in different languages, and previous proposals diverge in whether to analyze them as lexicalized PROs or not. In this study, I present new evidence from Mandarin for non-PRO overt controlees in finite control. This study also demonstrates a structural difference between exhaustive control and partial control, where the partial reading arises from an associative morpheme, thus providing new perspectives for PC theories.

Keywords. control; partial control; exhaustive control; PRO; Mandarin Chinese

1. Introduction. This paper investigates the control construction with an overt embedded subject in Mandarin Chinese, as shown in (1). Overt embedded subjects under control predicates have been observed in different languages (e.g. Yang 1985, Burzio 1986, Hu et al. 2001, Szabolcsi 2009), but previous proposals diverge in whether to analyze them as lexicalized PROs (Madigan 2006, Landau 2013, 2015, Zhang 2016) or not (Lee 2009). In this study, I present new evidence from Mandarin for non-PRO overt controlees in finite control. Furthermore, this study also provides new perspectives for theories of partial control (e.g. Hornstein 2003, Madigan 2008, Pearson 2016): I demonstrate that there is a structural difference between the complements of exhaustive control (EC) and partial control (PC) (e.g. Grano 2012, 2015, Landau 2000, 2013, 2015), and that the partial reading in PC arises from an associative morpheme (AM), thus providing independent support for the AM approach to PC (Madigan 2008).

The paper is organized as follows. Section 2 introduces the basic pattern of overt controlees in Mandarin and previous analyses of the construction. Section 3 demonstrates the obligatory bound reading of overt controlees, thus establishing the obligatory control (OC) status of the construction. In Section 4, I take a detour and argue for a structural difference between PC and EC. Section 5 presents evidence against a PRO analysis of overt controlees in Mandarin. Finally, Section 6 concludes the findings and discusses the implications.

- (1) Lisi dasuan xia ke yihou ta yao qu kan-kan.
 Lisi plan end class after he will go look-look
 ‘Lisi plans to go take a look after class.’

2. Background. This section start with an introduction to the basic pattern of control verbs in Mandarin. Table 1 presents examples of different types of control verbs. In this paper, I will mainly use the four verbs in the table to represent each type of control, since those verbs have been considered typical of each type and have been relatively well-studied. As in many other languages, control verbs in Mandarin can be classified into subject control verbs and object control verbs, depending on which argument of the control verb binds the controlee. For instance, *dasuan* ‘plan’ and *shefa* ‘try’ are subject control verbs, so the controlees should be interpreted as the subject of the control verbs, i.e. *Lisi* (2a-b); in contrast, *quan* ‘urge’ and *rang* ‘ask’ are object

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control verbs, so the controlees are controlled by the object of the control verbs, i.e. *Zhangsan* (3a-b).

	Subject control	Object control
PC	<i>dasuan</i> ‘plan’	<i>quan</i> ‘urge’
EC	<i>shefa</i> ‘try’	<i>rang</i> ‘ask’

Table 1. Types of control verbs in Mandarin

There is also a distinction between PC verbs and EC verbs. In EC, the controlee must be identical to the controller. Therefore, in (2a) and (3a), it is ungrammatical under an EC verb to use *jihe* ‘gather’, a collective embedded verb that requires a semantic plural subject, with a singular controller. On the other hand, for PC verbs, the controlee can include more referents than the matrix controller. Consequently, *jihe* ‘gather’ can be used under PC verbs with a singular controller, as shown in (2b) and (3b). There have been two general approaches to the phenomenon of PC: some researchers take PC to be a core phenomenon that should be captured by control theory (e.g. Landau 2000, 2013, 2015, Madigan 2008, Pearson 2016), while others deny the relevance of PC to control theory and treat it as an instance of EC with a covert comitative (i.e. PRO ... with X; Hornstein 2003, Boeckx et al. 2010). I will return to this discussion in the last section.

- (2) a. Subject EC verb:
 Lisi shefa liu dian chufa / *jihe.
 Lisi try six o'clock set-off / gather
 ‘Lisi tries to set off / *gather at six.’
- b. Subject PC verb:
 Lisi dasuan liu dian chufa / jihe.
 Lisi plan six o'clock set-off / gather
 ‘Lisi plans to set off / gather at six.’
- (3) a. Object EC verb:
 Lisi rang Zhangsan liu dian chufa / *jihe.
 Lisi ask Zhangsan six o'clock set-off / gather
 ‘Lisi asks Zhangsan to set off / *gather at six.’
- b. Object PC verb:
 Lisi quan Zhangsan liu dian chufa / jihe.
 Lisi urge Zhangsan six o'clock set-off / gather
 ‘Lisi urges Zhangsan to set off / gather at six.’

We now proceed to the phenomenon of overt embedded subjects in control. Previous literature has argued that all the different types of control verbs allow overt embedded subjects, and that the overt subjects can be pronouns, *ziji* ‘self’, reflexives (pronoun + *ziji*), or complemented pronouns (CPro, pronoun + numeral), (4a), (Hu et al. 2001, Zhang 2016). Different analyses of the construction have been proposed. Hu et al. 2001 suggested that there is no structural difference between control constructions and non-control constructions, since they both allow the same kinds of overt subjects, (4a-b). In contrast, Zhang 2016 claimed the construction in (4a) can be distinguished from that in (4b) because only the overt embedded subjects in (4a) are obligatorily bound to the matrix subject; and based on the bound reading of the overt embedded subjects, Zhang 2016 argued that they should be analyzed as overt forms of PROs, which is consistent

with Landau's 2012, 2015 analysis of overt controlees in other languages, including Korean, Romance, and Hungarian. In this paper, I aim to provide a novel analysis of the construction: first, I will provide more evidence that the overt subjects under control verbs are obligatorily controlled, thus arguing against Hu et al's 2001 unified analysis of control verbs and non-control verbs; but different from Zhang's 2016 analysis, I will demonstrate that overt controlees are only allowed under PC verbs, and should not be analyzed as lexicalized PROs.

- (4) a. Lisi dasuan ta / ziji / ta-ziji / ta-yi-ge-ren qu kan-kan.
 Lisi plan he / self / he-self / he-one-CL-person go look-look
 'Lisi plans to go take a look.'
 b. Lisi shuo ta / ziji / ta-ziji / ta-yi-ge-ren qu kan-kan.
 Lisi say he / self / he-self / he-one-CL-person go look-look
 'Lisi says he will go take a look.'

3. OC status. In this section, I use three well-accepted tests for OC to examine the interpretation of overt subjects embedded under control verbs. The tests include sloppy vs. strict reading, *de se* vs. *de re* reading, and long-distance control. It is shown that the overt embedded subjects are obligatorily controlled; therefore, the construction is indeed OC despite the presence of overt embedded subjects.

3.1. SLOPPY VS. STRICT READING. In VP-ellipsis, OC only allows a sloppy reading, but not a strict reading (e.g. Hornstein 1999). For instance, in English, an uncontrolled pronoun allows both a sloppy reading and a strict reading, (5a), while a PRO in OC only allows a sloppy reading, (5b).

- (5) a. Mary promised that she would behave. Her father did, too.
 Yes Sloppy: Her father promised that he would behave.
 Yes Strict: Her father promised that Mary would behave.
 b. Mary promised PRO to behave. Her father did, too.
 Yes Sloppy: Her father promised that he would behave.
 No Strict: Her father promised that Mary would behave.

Now we apply this test in Mandarin. For an overt subject under the non-control predicate *xiwang* 'hope', both a sloppy reading and a strict reading are possible, (6a); in contrast, an overt subject under the control predicate *dasuan* 'plan' only allows a sloppy reading, (6b). The same holds for object control: The subject under the non-control verb *gaosu* 'tell' allows both readings, (7a), whereas the subject under the control verb *quan* 'urge' only allows a sloppy reading, (7b). Therefore, this suggests that different from a subject embedded under a non-control predicate, the overt subject under a control verb is obligatorily controlled.

- (6) a. wo xiwang wo / ziji yihou qu zhe suo xuexiao shangxue. wo jiejie ye shi.
 I hope I / self after go this CL school study I sister also be
 'I hope I will go study in this school in the future. So does my sister.'
 Yes Sloppy: 'My sister also hopes she will go study in this school.'
 Yes Strict: 'My sister also hopes I will go study in this school.'
 b. wo dasuan wo / ziji yihou qu zhe suo xuexiao shangxue. wo jiejie ye shi.
 I plan I / self after go this CL school study I sister also be
 'I plan to go study in this school in the future. So does my sister.'
 Yes Sloppy: 'My sister also plans PRO to go study in this school.'
 No Strict: 'My sister also plans for me to go study in this school.'

- (7) a. wo gaosu Lisi ruguo xiayu ta jiu bu yao qu le. wo ye zheme gaosu
 I tell Lisi if rain he then no will go ASP I also so tell
 ta-de fuqin le.
 his father ASP
 ‘I tell Lisi that he does not need to go if it rains. I also tell his father so.’
 Yes Sloppy: ‘I tell Lisi’s father that Lisi’s father does not need to go if it rains.’
 Yes Strict: ‘I tell Lisi’s father that Lisi does not need to go if it rains.’
- b. wo quan Lisi ruguo xiayu ta jiu bu yao qu le. wo ye zheme quan
 I urge Lisi if rain he then no will go ASP I also so urge
 ta-de fuqin le.
 his father ASP
 ‘I urge Lisi not to go if it rains. I also urge his father so.’
 Yes Sloppy: ‘I urge Lisi’s father PRO not to go if it rains.’
 No Strict: ‘I urge Lisi’s father not to have Lisi go if it rains.’

3.2. *DE SE* VS. *DE RE* READING. The second diagnostic is that a controlee in OC only allows a *de se* (‘self’) reading, not a *de re* (‘person’) reading (e.g. Landau 2013). For instance, in the scenario of (8), both (9a) and (9b) are true, indicating the pronoun have both readings: John hopes for himself to win in (9a), and he hopes that the man on TV, which is not himself, to be defeated in (9b). However, in (10), only (10a) is true; (10b) requires a *de re* reading to be true since John does not want himself to be defeated, so it is false since the PRO only has a *de se* reading.

- (8) John is a candidate. He is watching himself giving a talk on TV, but he is too drunk to recognize himself, and he thinks the man on TV is a terrible candidate.
- (9) a. John hopes that he will win.
 True (*de se*)
 b. John hopes that he will be defeated.
 True (*de re*)
- (10) a. John hopes PRO to win.
 True (*de se*)
 b. John hopes PRO to be defeated.
 False (no *de re*)

Coming back to Mandarin, in the scenario of (11), both (12a) and (12b) are true, which suggests the overt subject under the non-control predicate *xiwang* ‘hope’ allows both a *de se* reading and a *de re* reading; nevertheless, under the control predicate *dasuan* ‘plan’, (13a) is true but (13b) is false, indicating that the overt subject under the control verb only allows a *de se* reading.

- (11) Lisi is too drunk to recognize himself in a photo and thinks that is his son, and he hopes and plans for his son but not for himself to go to college.
- (12) a. Lisi xiwang ta bu yao qu shang daxue.
 Lisi hope he not will go attend college
 ‘Lisi does not hope he will go to college.’
 True (*de se*)

- b. Lisi xiwang ta yao qu shang daxue.
Lisi hope he will go attend college
'Lisi hopes he will go to college.'
True (*de re*)
- (13) a. Lisi dasuan ta bu yao qu shang daxue.
Lisi plan he not will go attend college
'Lisi does not plan to go to college.'
True (*de se*)
- b. Lisi dasuan ta yao qu shang daxue.
Lisi plan he will go attend college
'Lisi plans to go to college.'
False (no *de re*)

The same holds for object control: given the same scenario of (11), both *de se* reading and *de re* reading are possible with the non-control verb *gaosu* 'tell', (14), but only the *de se* reading is allowed under the control verb *quan* 'urge', (15). Therefore, although overt subjects under non-control verbs have both *de se* and *de re* readings, those under control verbs only allow a *de se* reading, again suggesting that overt subjects under control verbs are obligatorily controlled.

- (14) a. Lisi gaosu erzi ta yinggai shang daxue.
Lisi tell son he should attend college
'Lisi tells his son that he should go to college.'
True (*de se*)
- b. Lisi gaosu erzi ta bu yinggai shang daxue.
Lisi tell son he not should attend college
'Lisi tells his son that he should not go to college.'
True (*de re*)
- (15) a. Lisi quan erzi ta yinggai shang daxue.
Lisi urge son he should attend college
'Lisi urges his son to go to college.'
True (*de se*)
- b. Lisi quan erzi ta bu yinggai shang daxue.
Lisi urge son he not should attend college
'Lisi urges his son not to go to college.'
False (no *de re*)

3.3. LONG DISTANCE CONTROL. The third test involves long distance control, which is not allowed in OC. For example, while the subject embedded under the non-control verb *said* can be interpreted as either *John* or *Bill*, (16a), the PRO under the control verb *promised* cannot be bound by the long-distance argument *John*, (16b).

- (16) a. John_i knows that Bill_j said he_{i/j} will come.
b. John_i knows that Bill_j promised PRO*_{i/j} to come.

Returning to Mandarin, the non-control predicate *shuo* 'say' allows long distance co-reference, (17a), but the control predicate *dasuan* 'plan' does not, (17b). The same holds for object control: The non-control predicate *gaosu* 'tell' allows long distance co-reference, (18a), whereas the control predicate *quan* 'urge' does not, (18b). Therefore, the results indicate that overt subjects under control verbs are obligatorily controlled.

- (17) a. Zhangsan_i zhidao Lisi_j shuo ta_{i/j} yao qu lüyou.
 Zhangsan know Lisi say he will go travel
 ‘Zhangsan_i knows that Lisi_j said that he_{i/j} will go travel.’
 b. Zhangsan_i zhidao Lisi_j dasuan ta_{*i/j} yao qu lüyou.
 Zhangsan know Lisi plan he will go travel
 ‘Zhangsan_i knows that Lisi_j plans PRO_{*i/j} to go travel.’
- (18) a. Zhangsan_i zhidao Lisi_j gaosu Wangwu_k wulun ruhe ta_{i/j/k} dou yao lai.
 Zhangsan know Lisi tell Wangwu no-matter what he all will come
 ‘Zhangsan_i knows that Lisi_j told Wangwu_k he_{i/j/k} is coming anyway.’
 a. Zhangsan_i zhidao Lisi_j quan Wangwu_k wulun ruhe ta_{*i/*j/k} dou yao lai.
 Zhangsan know Lisi urge Wangwu no-matter what he all will come
 ‘Zhangsan_i knows that Lisi_j urged Wangwu_k PRO_{*i/*j/k} to come anyway.’

In summary, through the application of three standard tests, this section has demonstrated that unlike overt subjects embedded under non-control verbs, which can have an unbound reading, overt subjects embedded under control verbs are obligatorily controlled. Therefore, this indicates the construction with overt subjects under control verbs in Mandarin is indeed OC, and argues against the unified analysis of control and non-control constructions (Hu et al. 2001). In the following sections, I continue to explore the nature of the overt controlees.

4. PC vs. EC. Having shown that the construction with overt embedded subjects under control verbs in Mandarin is indeed OC, this section takes a detour and argues for a structural difference between the complements of PC and EC verbs. The argument is based on two observations: first, only PC verbs allow overt controlees; second, the finite future morpheme *jiang* only appears under PC verbs. Therefore, I propose a finiteness distinction between PC and EC complements: Only PC verbs can take a finite complement and thus allow overt controlees and *jiang*.

4.1. ONLY PC VERBS ALLOW OVERT CONTROLEES. Although previous work reported that *ziji*, reflexives and CPros can be used as overt controlees under both PC verbs and EC verbs (e.g. Hu et al. 2001, Zhang 2016), it is necessary to investigate the nature of those words when they appear under control verbs, because they can be used either as a DP or as an adverb, meaning ‘by oneself’. In this section, I use four tests to show that those elements under EC verbs are actually adverbs. Therefore, contra previous work (e.g. Hu et al. 2001, Zhang 2016), this section argues only PC verbs allow overt controlees.

4.1.1. FOCUS MARKERS. The first test involves the focus markers *lian...dou...* (‘even...also...’), which can be used to stress an argument, (19a), but not an adverb, (19b).

- (19) (Zhang 2016:6)
- a. *lian* Lili *dou* *qu* *le* *duchang*.
 even Lili also go ASP casino
 ‘Even Lili went to a casino.’
- b. *Lili *lian* *ta-yi-ge-ren* / *ziji* *dou* *qu* *le* *duchang*.
 Lili even she-one-CL-person / self also go ASP casino

In control, the focus markers can be used to stress CPros, reflexives and *ziji* under PC verbs, (20a), but not with EC verbs, (20b), suggesting those elements are adverbs under EC verbs.

- (20) a. (Zhang 2016:11)
 Baba he Mama dasuan wanshang lian tamen-liang-ge / (tamen-)ziji dou
 Dad and Mom plan evening even they-two-CL they-self also
 qu duchang.
 go casino
 ‘Dad and Mom planned that even they two would go to a casino this evening.’
- b. *Baba he Mama shefa wanshang lian tamen-liang-ge / (tamen-)ziji dou
 Dad and Mom try evening even they-two-CL they-self also
 qu duchang.
 go casino
 Intended: ‘Dad and Mom made the attempt that even they two would go to a casino this evening.’

4.1.2. MODAL. The second test uses the modal *yao* ‘will’. It appears after the subject, and before CPros, reflexives or *ziji* when they are used as adverbs, (21).

- (21) a. Zhangsan yao ta-yi-ge-ren / (ta-)ziji qu.
 Zhangsan will he-one-CL-person / (he-)self go
 ‘Zhangsan will go by himself.’
- b. *Zhangsan ta-yi-ge-ren / (ta-)ziji yao qu.¹
 Zhangsan he-one-CL-person / (he-)self will go
 Intended: ‘Zhangsan will go by himself.’

In control, *yao* itself can appear under both a PC verb (22a) and an EC verb (22b), but only the PC verb allows an overt embedded subject before the modal, (22a). And the same holds for object control: Both the PC verb and the EC verb allow an embedded modal, but only the PC verb allows an overt embedded subject before it, (23). Therefore, this again suggests CPros, reflexives or *ziji* can only be used as adverbs under EC verbs, and that only PC verbs allow overt controlees.

- (22) a. Zhangsan dasuan (ta-yi-ge-ren / ziji) yao zaodian wancheng baogao.
 Zhangsan plan he-one-CL-person/self will early finish report
 ‘Zhangsan plans to finish the report early.’
- b. Zhangsan shefa (*ta-yi-ge-ren / *ziji) yao zaodian wancheng baogao.
 Zhangsan try he-one-CL-person / self will early finish report
 ‘Zhangsan tries to finish the report early.’
- (23) a. Zhangsan quan Lisi he Wangwu wulun ruhe (ta-men-liang-ge)
 Zhangsan urge Lisi and Wangwu no-matter what he-PL-two-CL
 dou yao lai.
 all will come
 ‘Zhangsan urges Lisi and Wangwu to come anyway.’
- b. Zhangsan rang Lisi he Wangwu wulun ruhe (*ta-men-liang-ge)
 Zhangsan ask Lisi and Wangwu no-matter what he-PL-two-CL
 dou yao lai.
 all will come
 ‘Zhangsan asks Lisi and Wangwu to come anyway.’

¹ This sentence can be acceptable if the CPro, reflexive or *ziji* is used as an emphatic subject pronoun, but it cannot be interpreted as ‘Zhangsan will go by himself’, where the CPro, reflexive or *ziji* is used as an adverb.

4.1.3. HIGH ADVERBS. The next piece of evidence comes from a class of high adverbs which appears after the subject but before the modal and other adverbs, if any. One example of such high adverbs is *ye* ‘also’, (24).

- (24) a. Zhangsan yao ziji / ta-yi-ge-ren qu faguo lüyou. Lisi (ye) yao ziji
 Zhangsan will self / he-one-CL-person go France travel Lisi also will self
 / ta-yi-ge-ren (*ye) qu.
 / he-one-CL-person also go
 ‘Zhangsan is going to travel to France by himself. Lisi is (also) going by himself.’

In control, both PC verbs and EC verbs allow high adverbs in their complements, but overt embedded subjects can only appear before such high adverbs under PC verbs, (25a), not under EC verbs, (25b). And the same holds for object control: The high adverbs are allowed under both PC and EC verbs, but only PC verbs permit an overt embedded subject before the high adverb, (26). Therefore, this indicates again that only PC verbs allow overt controlees.

- (25) a. Zhangsan qu faguo lüyou le. Lisi dasuan (ziji) ye qu.
 Zhangsan go France travel ASP. Lisi plan self also go
 ‘Zhangsan has gone to travel to France. Lisi also plans to go.’
 b. Zhangsan qu faguo lüyou le. Lisi shefa (*ziji) ye qu.
 Zhangsan go France travel ASP. Lisi try self also go
 ‘Zhangsan has gone to travel to France. Lisi also tries to go.’
- (26) a. Zhangsan quan Lisi he Wangwu (ta-men-liang-ge) ye qu lüyou.
 Zhangsan urge Lisi and Wangwu he-PL-two-CL also go travel
 ‘Zhangsan urges Lisi and Wangwu to go travel as well.’
 b. Zhangsan rang Lisi he Wangwu (*ta-men-liang-ge) ye qu lüyou.
 Zhangsan ask Lisi and Wangwu he-PL-two-CL also go travel
 ‘Zhangsan asks Lisi and Wangwu to go travel as well.’

4.1.4. PRONOUNS. The next diagnostic is pronouns. As discussed above, it has been proposed that pronouns can serve as overt controlees (Hu et al. 2001, Zhang 2016); but different from the other overt controlee elements, pronouns do not have an adverbial use. Therefore, if only PC verbs allow overt controlees, then it will be ungrammatical to embed pronouns as subjects under EC verbs. This prediction is borne out in both subject control (27) and object control (28): pronouns can be embedded as subjects under PC verbs, but not under EC verbs. Again, this suggests only PC verbs allow overt controlees.

- (27) a. Lisi dasuan mingnian xiatian (ta) qu lüyou.
 Lisi plan next-year summer he go travel
 ‘Lisi plans to go travel next summer.’
 b. Lisi shefa mingnian xiatian (*ta) qu lüyou.
 Lisi try next-year summer he go travel
 ‘Lisi tries to go travel next summer.’
- (28) a. Zhangsan quan Lisi wulun ruhe (ta) dou yao lai.
 Zhangsan urge Lisi no-matter what he all will come
 ‘Zhangsan urges Lisi to come anyway.’

- b. Zhangsan rang Lisi wulun ruhe (*ta) dou yao lai.
 Zhangsan ask Lisi no-matter what he all will come
 ‘Zhangsan asks Lisi to come anyway.’

In summary, in the subsection, I have demonstrated that *ziji*, reflexives and CPros behave differently under PC verbs and EC verbs: they only have an adverbial use under EC verbs, but can behave as DPs under PC verbs. Moreover, pronouns can only be embedded as subjects under PC verbs. Therefore, overall, the observations indicate that only PC verbs allow overt controlees. This is taken to be our first argument for a structural difference between the complements of PC and EC verbs: the complement of a PC verb allows an overt subject, whereas in the complement of an EC verb, the subject must always be null. The reason of this distinction will be explored in later sections.

4.2. THE FUTURE MORPHEME *JIANG* ONLY APPEARS UNDER PC VERBS. This section presents the next argument for a structural difference between PC and EC, based on the behavior of the future morpheme *jiang*, which is conventionally glossed as ‘will’. *jiang* has been treated as a syntactic future morpheme in the T node, in contrast to modals such as *yao*; see Ren 2008 and Huang 2015 for extensive discussion of the syntactic properties of *jiang*. Crucially, *jiang* can appear under a PC verb, (29a), but not under an EC verb, (29b)².

- (29) a. Lisi dasuan (ta) (jiang) zai jintian wancheng baogao.
 Lisi plan he will be today finish report
 ‘Lisi plans to finish the report today.’
 b. Lisi shefa (*jiang) zai jintian wancheng baogao.
 Lisi try will be today finish report
 ‘Lisi tries to finish the report today.’

Why is *jiang* inhibited under EC verbs? Some studies have claimed that EC verbs take vP rather than CP complements (e.g. Grano 2012, 2015), so one possible explanation could be EC complements lack a TP projection to host *jiang*. However, I aim to argue against this possibility by demonstrating that EC verbs do allow sentential complements. The first diagnostic is the morpheme *shuo*³, which only appears at the left periphery of an embedded clause (e.g. Huang 2015); for example, in (30), it must precede both the subject and the fronted topic in the embedded CP. Therefore, it can be used to diagnose sentential complements.

- (30) Lisi zhidao shuo zhe-ben-shu Zhangsan kan guo.
 Lisi know SHUO this-CL-book Zhangsan read ASP
 ‘Lisi knows that this book, Zhangsan has read.’

² It may appear problematic that both *yao* and *jiang* are glossed as ‘will’, but only *yao* can appear under EC verbs whereas *jiang* cannot. Actually, although *yao* and *jiang* are conventionally glossed in the same way, their semantics and syntax differ in important ways. *yao* is usually used to denote a subjunctive intention, and it passes all standard tests as an auxiliary, so it is considered to head a ModalP; in contrast, *jiang* is compatible with a larger range of future time references, with little semantic restriction, and it has been shown not to be an auxiliary, so it is treated as a syntactic tense (see Ren 2008, Huang 2015 for detailed discussions). Therefore, the compatibility of *yao* under EC verbs does not challenge the claim in the current paper that the complement of EC verbs forbids syntactic tense marking.

³ The exact nature of *shuo* is still under debate in literature, but its distribution property is generally agreed (e.g. Chappell 2008, Paul 2014); therefore, it serves as a reliable test for sentential complements for our purposes.

Crucially, *shuo* can appear under EC verbs, (31), which suggests EC verbs can take an embedded CP as complement. Therefore, the inhibition of *jiang* under EC verbs cannot be due to a lack of TP projection under EC verbs.

- (31) Lisi shefa shuo ye qu faguo lüyou.
 Lisi try SHUO also go France travel
 ‘Lisi tries to also travel to France.’

Second, the availability of ex-situ focus under EC verbs also indicates that EC verbs allow sentential complements. Ex-situ focus is demonstrated to be located in CP, both generally (e.g. Rizzi 1997) and specifically in Mandarin (e.g. Cheng and Giannakidou 2013). And it turns out that the typical ex-situ focus *shenme-shi* ‘everything’ can appear under EC verbs, (32). Therefore, this provides another piece of evidence that EC verbs can take sentential complements, and thus the inhibition of *jiang* under EC verbs must be attributed to other reasons than a lack of TP projection.

- (32) Lisi shefa sheme-shi dou ziji jieju t.
 Lisi try what-matter all self handle
 ‘Lisi tries to handle everything by himself.’

In summary, in this subsection, I have shown that *jiang* can only appear under PC verbs; and moreover, the inhibition of *jiang* under EC verbs cannot be due to a lack of TP projection under EC verbs. I propose that this finding can be explained by a finiteness distinction between the complements of PC and EC verbs: The complement of EC verbs is non-finite, so it forbids the finite morpheme *jiang*; in contrast, PC verbs can take finite complements, where *jiang* is allowed. This analysis also accounts for the previous observation that only PC verbs allow overt controlees: since a PC verb can take a finite complement, an overt embedded subject is allowed; whereas an EC verb must take a non-finite complement, so the embedded subject is the obligatory null PRO.

Overall, this section has presented two arguments for a structural distinction between the complements of PC and EC verbs: only PC verbs allow overt controlees, and only PC verbs allow an embedded *jiang*. I thus propose a finiteness distinction between PC and EC complements to account for the observations: only PC verbs can take finite complements, and therefore allow overt controlees and the future morpheme *jiang*.

5. Against PRO. In this section, I examine the nature of overt controlees in Mandarin. I provide two arguments against a PRO-analysis: first, overt controlees only appear under PC verbs; second, overt controlees retain their own syntactic and semantics properties under control.

5.1. OVERT CONTROLEES ONLY APPEAR UNDER PC VERBS. As shown in Section 4, only PC verbs allow overt controlees. However, a PRO analysis of overt controlees in Mandarin does not predict the lexicalization of PROs with PC verbs only, since the embedded subjects under EC verbs are supposed to be PROs as well. On the other hand, this fact can be accounted for by the proposal in Section 4 that overt controlees are non-PRO elements in the finite complements of PC verbs, whereas the embedded subjects under EC verbs are PROs in non-finite complements and therefore must be null.

5.2. OVERT CONTROLEES RETAIN THEIR OWN SYNTACTIC AND SEMANTIC PROPERTIES. The next piece of evidence against a PRO-analysis is that except for the bound reading enforced by control, the overt controlees retain their own syntactic and semantic properties and are

distinguishable from each other; in contrast, if they are all lexicalized PROs, they are expected to exhibit the same properties. Therefore, this again argues against a PRO-analysis of overt controlees. In the following part, two such properties are examined in detail: exhaustive/partial reading, and logophoricity.

To start with, in terms of exhaustive/partial reading, pronouns and reflexives allow a partial reading by attaching the morpheme *-men* in non-control constructions, but *ziji* does not. *-men* is an associative plural marker that maps a kind to a salient group in the context (Jiang 2017). Therefore, when a pronoun or a reflexive is used as the object, it is grammatical to have [singular ... plural] dependency, with *-men* attached to the object, (33a). However, if *ziji* is used as the object, then *-men* cannot be attached, and only an exhaustive reading is possible, (33b)⁴. Importantly, this property of hosting *-men* and allowing a partial reading is retained under control: when a pronoun or a reflexive is used as the overt controlee, *-men* can be attached to the controlee and a partial reading is thus obtained; in contrast, if *ziji* serves as the overt controlee, then just as in non-control constructions, it is ungrammatical to attach *-men*, and only an exhaustive reading is allowed, (34). Therefore, this indicates that pronouns, reflexives and *ziji* retain their property regarding the availability of partial reading when they are controlled, and should not be uniformly analyzed as lexicalized PROs.

(33) a. wo kanjian wo-men(-ziji) le.
I see I-PL-self ASP
'I saw ourselves.'

b. wo kanjian ziji(-*men) le.
I see self(-PL) ASP
'I saw myself(/*ourselves).'

(34) Lisi_i dasuan Ø_{i/i+} / ta_i / ta-men(-ziji)_{i+} / ziji(-*men)_{i/*i+} yao qu lüyou.
Lisi plan he he-PL-self self-PL will go travel
'Lisi plans to go travel.'

Note that this observed correlation between *-men* and the partial reading is consistent with Madigan's (2008) AM approach to PC reading: he proposed that the partial reading in PC is enabled by an AM attached to the controlee; and the semantics of an AM is stated as follows:

(35) [[AM]]^c = λx. the plural entity that includes x and those associated with x in the context c

According to the definition in (35), the Mandarin marker *-men* is exactly an AM. Therefore, the observation that a PC reading is allowed in Mandarin only when the overt controlee can host *-men* provides independent evidence for the AM approach to PC.

Another example of overt controlees retaining their own properties under control is logophoricity. Among all the elements that can serve as overt controlees, only *ziji* is a logophor in non-control constructions, and thus it can only be bound to an object that is set as the logophoric center (e.g. Huang & Liu 2001, Charnavel 2020). For instance, in (36a), the reflexive can be interpreted as either *Zhangsan*, *Lisi* or *Wangwu*; *ziji*, however, cannot be interpreted as the object *Lisi*, which is not a logophoric center. Then in (36b), when the object *Lisi* is deliberately made a

⁴ Note that this is not because *ziji* cannot be bound by plural DPs. For example, (i) is grammatical.

(i) Zhangsan he Lisi kanjian ziji le.
Zhangsan and Lisi see self ASP
'Zhangsan and Lisi saw themselves.'

logophoric center by adding ‘*There’s something that made Lisi sad*’ at the beginning, then *ziji* can be bound by *Lisi* as well, just as the reflexive.

- (36) a. Zhangsan_i gaosu Lisi_j Wangwu_k piping le ta-ziji_{i/j/k} / ziji_{i/*j/k}.
 Zhangsan tell Lisi Wangwu criticize ASP him-self / self
 ‘Zhangsan told Lisi that Wangwu criticized himself.’
- b. you jian-shi shi Lisi_j hen nanguo: Zhangsan_i gaosu ta_j Wangwu_k
 exist CL-thing make Lisi very sad: Zhangsan tell him Wangwu
 piping le ta-ziji_{i/j/k} / ziji_{i/j/k}.
 criticize ASP him-self / self
 ‘There’s something that made Lisi_j sad: Zhangsan_i told him_j that Wangwu_k criticized himself_{i/j/k}.’

Again, this property of logophoricity is retained under control. In an object control construction as (37a) where the object *Lisi* is not a logophoric center, *ziji* cannot be bound to the object, just as in non-control constructions. Therefore, *ziji* cannot serve as an overt controlee. In contrast, the reflexive can be bound to an object, so it can be used as an overt controlee in object control. However, the same technique as in (36b) can be applied in order to enable *ziji* to be bound by the object: by adding ‘*There’s something that made Lisi sad*’, the object *Lisi* becomes a logophoric center, so just as in non-control constructions, *ziji* can be bound by the object now and therefore can serve as an overt controlee. Therefore, this indicates that *ziji* is still a logophor when controlled, rather than a lexicalization of PRO.

- (37) a. Zhangsan_i quan Lisi_j ruguo bieren dou bu qu, ta-ziji_{*i/j} / *ziji_{*i/*j} ye bu
 Zhangsan urge Lisi if others all not go he-self / self also not
 yao qu.⁵
 will go
 ‘Zhangsan_i urged Lisi_j PRO_{*i/j} not to go if nobody else goes.’
- b. you jian-shi shi Lisi_j hen nanguo: Zhangsan_i quan ta_j ruguo bieren
 exist CL-thing make Lisi very sad: Zhangsan urge him if others
 dou bu qu, ta-ziji_{*i/j} / ziji_{*i/j} ye bu yao qu.
 all not go he-self / self also not will go
 ‘There’s something that made Lisi_j sad: Zhangsan_i urged him_j PRO_{*i/j} not to go if nobody else goes.’

In summary, this subsection has shown that except for the bound reading enforced by control construction, overt controlees keep their own syntactic and semantic properties even when controlled. This argues against a uniform PRO analysis of all the overt controlees.

6. Conclusions & implications. To conclude, this paper aims to investigate the syntax of the construction where an overt embedded subject is allowed under a control predicate in Mandarin. I have shown that the overt controlees have an obligatory bound reading, so the construction is indeed OC. Moreover, it is demonstrated that the distribution and properties of the overt controlees differ from PROs: the overt controlees only appear in the finite complement of PC verbs, and they keep the syntactic and semantics properties that they typically exhibit in non-control constructions. Therefore, I argue that overt controlees in Mandarin should not be analyzed as

⁵ Note that the construction in (37) is OC, which forbids long distance control. Therefore, different from their behavior in non-control constructions as (36), neither the reflexive nor *ziji* can be bound by the subject *Zhangsan*.

overt forms of PROs. Another major finding of this study is that a partial reading is only possible when the AM *-men* can be attached to the overt controlee, thus addressing the problem in control theory of how the partial reading arises.

The findings in this paper have several theoretical implications for the study of control. First, most classic literature has treated PROs as a defining feature of control. However, as this paper has shown that non-PRO elements can be controlled as well, it extends OC theories beyond PROs. Second, it has been debated in control literature whether it is necessary to posit a substantial distinction in the structure of PC and EC (e.g. Grano 2012, 2015, Landau 2000, 2013, 2015). This study adds to the discussion by demonstrating a structural difference between PC and EC in Mandarin: only PC verbs can take finite complements and thus allow overt controlees. Third, an important question in control theory is how the partial reading in PC is obtained. One line of research has suggested that it is sufficient to explain the partial reading by the presence of a covert comitative (Hornstein 2003, Boeckx et al. 2010). However, data presented in this paper argue against this purely comitative approach, as they show systematic differences between PC and EC structures. Rather, by identifying the role of the associative plural marker *-men* in PC, this study supports the alternative proposal that partial reading originates from an AM attached to the controlee (Madigan 2008).

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