

Finiteness in Mandarin and the realisation of obligatorily null subjects

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1 Introduction

In Mandarin control verbs take obligatorily null subjects in their embedded clause, as expected of control verbs (see Huang 1989; Tang 2000, Xu 2003 etc). (1) is an example of a control construction. The item labelled PRO cannot be realised phonetically; its reference must be the matrix subject, parallel to the English construction.¹

- (1) Wo_i zhunbei [PRO_i mingtian lai]
 I prepare [PRO tomorrow come]
 ‘I expect to come tomorrow’

(1) is distinguishable from (2), where the subject of the embedded clause may be dropped in an appropriate discourse context, but may also be filled with a lexical category; this type of null argument is generally labelled *pro* (Li 1985, Huang 1989).

- (2) Wo shuo [(wo/ta/pro) lai le]
 I said [(I /she/pro) come ASP²]
 ‘I said I/she/*pro* came’

As in other languages, there is therefore an obligatorily null v. optionally null distinction between PRO and *pro* subjects. However, Hu, Pan and Xu (2001) observe³ that Chinese PRO can be phonetically realised when a topic is present in the embedded CP, contra what is possible in English:

- (3) Wo zhunbei [mingtian xiawu tian hei yihou, wo yi ge ren lai]
 I expect [tomorrow afternoon sky black after, I one CL person come]
 ‘I plan to come alone tomorrow afternoon after it gets dark.’
 (cf. *I plan tomorrow afternoon after it gets dark I to come)

¹ Many thanks to my informants Boping Yuan, Wang Wei, and Chuyan Tan. Any remaining errors are my own.

² ASP ‘aspect (past)’; CL ‘classifier’; OBJ ‘object marker’; NEG ‘negation marker’; DE ‘possession marker’

³ Hu, Pan and Xu (henceforth HPX) (2001) cite the overt subject following the topic as evidence that Chinese does not exhibit a finite/nonfinite distinction. It is beyond the scope of this paper to discuss the validity of this claim, so I simply note that Lin (2011) offers a thorough response to their criticism and presents new evidence for a finite/nonfinite distinction in Mandarin. Here the focus is control constructions, and it is therefore the asymmetry in the realisation of the subject in conjunction with the presence of the Topic, rather than the lexical semantics of predicates (as they discuss), that is relevant.

- (4) Wo bi Lisi [buguan fasheng shenme shi ta dou bixu ba dongxi zhao huilai]
 I force Lisi [no matter happen what thing he all necessary OBJ thing find bring come-back]
 ‘I forced Lisi to find that thing no matter what happened.’
 (cf. *‘I forced Lisi no matter what happened he/him to find that thing’)

It appears the controlled embedded subject may *only* be overt in the presence of an embedded topic, otherwise it is obligatorily null.

- (5) *Wo zhunbei [wo/ta mingtian lai]
 I prepare [I/him tomorrow come]
 *‘I expect I/him to come tomorrow’
- (6) *Wo bi Lisi [wo/ta lai]
 I force Lisi [I/him come]
 *‘I forced Lisi I/him to come’

This paper examines the relationship between the realisation of the embedded subject and the internal structure of the Mandarin embedded CP. Section Two introduces the traditional theoretical analysis of controlled subjects and their relationship to the CP. Section Three examines the overt controlled subject more closely in Chinese, and concludes that the Null Case analysis is insufficient. Section Four gives a detailed account of the type of topic that licenses overt counterparts to PRO. Based on the evidence presented in the previous sections, Section Five discusses how the distribution of overt subjects in control constructions in Chinese can inform our understanding of the internal structure of the Mandarin CP.

2 Control

A control predicate is traditionally analysed as taking a CP complement whose argument PRO is not expressed overtly but understood either as identical with some other element (usually in the immediately superordinate clause) or as generic/arbitrary. The unexpressed PRO element is the controllee, and the understood referent is the controller. In English, as in Chinese, the controlled subject of the embedded clause is obligatorily null.

- (7) I arranged [_C[_IPRO to come tomorrow]]
 (8) *I arranged [_C[_tthem to come tomorrow]]

It is well-established that a connection holds between the C-system and the controlled element. Following the widely adopted Null Case account (Chomsky and Lasnik 1993), PRO is licensed by a special abstract

Null Case feature which is valued by a non-finite T-head selected by C; as with other Cases, Null Case precludes an argument from moving from a Case marked position to another. Specifically, an unvalued Case feature on a pronoun goal is valued as null via agreement with a T-probe carrying non-finite tense. The following illustrate that it is an element of C (the finite complementiser ‘that’, the non-finite complementiser ‘for’, and a parallel null non-finite complementiser ‘ \emptyset ’) that determine the Case the T-probe values:

- (9) I arranged [_Cfor[_I*(them) to come tomorrow]]
- (10) I arranged [_C \emptyset [_IPRO to come tomorrow]]
- (11) I arranged [_Cthat[_I*(they) come tomorrow]]

Rizzi (1997:305) observed that if adjacency is required between some element of the C-system and the subject position, the case of the lexical subject may be determined by that element. The traditional account formally accommodates the relationship between CP and PRO as:

- (12) Null Case is sanctioned by [-fin] under government (Rizzi 1997:306)

In order to account for the asymmetry between ‘that’ and ‘for’ it is proposed that the two types of complementiser (finite ‘that’, non-finite ‘for’ and null non-finite ‘ \emptyset ’) occupy different functional projections of the split CP (Rizzi 1997:304).

- (13) C⁰-Force-(Topic*)-(Focus)-(Topic*)-Finite-T⁰

Crucially the CP only splits in structures containing a topicalized or focalised element. When these elements are not present, the Force and Finite projections are syncretised, corresponding to C⁰. The distribution of embedded topics supports this hypothesis.

- (14) * I arranged [_{CP}for[_{TopP}[if it’s sunny]][_{TP}them to come tomorrow]
- (15) * I arranged [_{CP} \emptyset [_{TopP}[if it’s sunny]][_{TP}to come tomorrow]
- (16) I arranged [_{CP}that[_{TopP}[if it’s sunny]][_{TP}they come tomorrow]

Only the finite complementiser permits an embedded topic: a topic proceeding ‘for’ or ‘ \emptyset ’ is ungrammatical, but permitted with ‘that’ (or its null finite counterpart).

Rizzi (1997:301) argues that ‘that’ may appear in ForceP when the CP is split by the presence of a topic, but that ‘for’ always occupies FiniteP, thus maintaining adjacency between the non-finite licenser and T (see (12)). It seems reasonable to assume that as the null complementiser patterns with ‘for’, it also occupies FinP when the CP splits; in addition it would then be in the relevant position to govern spec-T.

3 Null Case and the overt controlled subject in Chinese

It is difficult to extend the Null Case analysis of PRO to the distribution of overt and covert subjects of control structures in Chinese.

As already discussed, in a control structure, a controlled argument PRO must be coreferent with its closest overt argument; the controllee is obligatorily null.

- (17) Wo zhunbei PRO mingtian lai
 I prepare PRO tomorrow come
 ‘I expect to come tomorrow’
- (18) Wo quan Zhangsan PRO bu mai zhe ben shu
 I persuade Zhangsan PRO NEG buy this-CL book
 ‘I persuaded Zhangsan not to buy this book’

As already stated, the only environment in which the embedded subject of a control verb can be overt is following a topic in the embedded clause. If the embedded subject is not overt following the topic, it is also coreferential with the closest DP in the superordinate clause.

- (19) Wo zhunbei [mingtian xiaowu tian hei yihou lai]
 I plan [tomorrow afternoon sky dark after come]
 ‘I plan to come tomorrow afternoon after it gets dark.’

In order to translate Null Case to Chinese, we must assume that as in English, a Chinese control verb selects a CP occupied by a null complementiser; the null complementiser must be non-finite in order to assign Null Case. Following Rizzi (1997), the null complementiser occupies a syncretic Force and Finite functional projection (simply labelled CP here) as no discourse type element is present to split CP. The null complementiser assigns Null Case to TP and the non-finite T-probe values an unvalued Case feature on a pronoun goal as null via agreement. The null pronoun would be PRO.

- (20) a. Wo zhunbei lai
 I expect come
 ‘I expect to come’
- b. I expect [_{CP}∅[_{TP}PRO to come]]

So far, the Null Case account follows through to Chinese. However, as discussed in Section Two, an adjacency relation must hold between FiniteP and an embedded subject valued as Null.

As before, the presence of a discourse element such as a topic splits the syncretic head into distinct projections: ForceP–TopicP–FiniteP. If TopicP splits the CP, the finite complementiser occupies ForceP. Therefore the presence of a topic in English is crucially equated with Finiteness such that topics are only permitted in finite clauses; and of course, an overt subject is only permitted in finite contexts.

- (21) I arranged [_{CP}(ForceP)that [_{TopP}no matter what [_{FinP}∅ [_{TP}they would come]

It seems the finite/non-finite explanation cannot be extended to Chinese. There are no overt finite/non-finite complementisers in Mandarin but it appears that all control structures are non-finite, regardless of the presence of a Topic. An uncontroversial test for this is the use of the future-possibility marker *hui*. *Hui* is incompatible with non-finite clauses (Huang 1989; Li 1990; HPX 2001; Lin 2011).

- (22) *Wo zhunbei PRO mingtian hui lai
I prepare PRO tomorrow will come
'I expect I'll come tomorrow.'
- (23) *Wo jiao Zhangsan PRO mingtian hui lai
I tell Zhangsan PRO tomorrow will come
'I told Zhangsan he'll come tomorrow.'
- (24) *Wo zhunbei [mingtian xiaowu tian hei yihou wo yige ren hui lai]
I plan [tomorrow afternoon sky dark after I one-CL person will come]
'I plan to probably come alone tomorrow afternoon after it gets dark.'
- (25) *Wo jiao Zhangsan [jintian xiaowu ta hui lai]
I tell Zhangsan [this afternoon he will come]
'I told Zhangsan he'll probably come this afternoon.'

These examples indicate that all control clauses are non-finite, regardless of the presence of a topic. If the null non-finite complementiser always occupies the FiniteP functional head of the universal structural hierarchy, and the Topic does not interfere with the complementiser's Null Case licensing of the embedded subject, then unlike English, the distribution of topics and an overt subject is not a result of the type of complementiser in CP, and an alternative account is required.

The distribution of the overt controlled argument in Chinese appears to be restricted to a syntactic context related to the structure of the CP. However, although this suggests some kind of intervention effect following the traditional Null Case account – which has been relevant to similar phenomena cross-linguistically (e.g. Rizzi 1997, Browning 1996) – it is insufficient for Chinese. Instead, it appears that the realisation of the controlled subject is determined by the presence of a Topic in the embedded CP. It therefore seems pertinent to examine the distribution and interpretation of embedded Topics in control structures.

4 Properties of the topic

This Section demonstrates that the overt embedded subject seems to be restricted to the environment of a Topic merged directly in CP. This will be referred to as a base-generated topic. The data suggests that two types of base-generated topic license an overt controlled subject.⁴

First are sentence-level adverbs. As discussed in great deal by Peng (2008), Paul and Whitman (2008), and Paul (2005, 2010) sentence-level adverbs pattern with DP Topics and occupy spec-TopP of a split-C. The sentence-level adverbs discussed in these works correspond precisely to the type of adverbial that conditions the overt embedded subject: these include time adverbs (27); time phrases (28); and conditionals (29) (see also Gasde and Paul 1996, Paul 2010 and Haegeman 2010):

- (26) Ni zuìhǎo shēfā jīntiān xiàwǔ sān lè huì yíhòu (nǐ) yí gè rén lái
 You best try today afternoon finish ASP meeting after (you) one CL person come
 ‘You had better try to come by yourself this afternoon after the meeting is over.’

- (27) Wǒ jiào Zhāngsān jīntiān xiàwǔ tā wúlùnruòhé dōu yào lái
 I tell Zhangsan today afternoon he no matter all want come
 ‘I told Zhangsan that he must come this afternoon whatever happens.’

- (28) Wǒ quān Zhāngsān rúguǒ měi yǒu rén mǎi zhè běn shū, tā yě bù yào mǎi
 I persuade Zhangsan if NEG have people buy this CL book, he also NEG want buy
 ‘I persuaded Zhangsan not to buy this book if no one (else) bought it.’

The second class of base-generated topic is ‘discourse’ or ‘gapless’ topics (Tsai 1994, Huang, Li and Li (HLL) 2009 etc.); these also license an overt controlled subject (data developed from Tsai 1997: 3):

⁴ I leave the question as to whether any focalised element induce the same effects to future research; at present there is no evidence that they can.

- (29) Wo quan ta shuiguo, zhi xuan pingguo.
 I persuade him fruit only select apple
 ‘I persuaded him, (when it comes to) fruit, only to select apples.’

- (30) Wo quan ta shuiguo, Zhangsan zhi xuan pingguo.
 I persuade him fruit Zhangsan only select apple
 I persuaded him, (when it comes to) fruit, Zhangsan only chooses apples.

The ‘base-generated’ status of these types of topics has been examined extensively (e.g. Li and Thompson 1976; Tsai 1994, 1997; Shi 2000; Aoun and Li 2003; HLL 2009). The issue can be summarised as follows: topics are derived via A’-movement and should therefore be sensitive to locality conditions, such as Subjacency (which, i.a., prevents extraction from a Complex Noun Phrase) and the Condition on Extraction Domains (CED) (prohibiting extraction from subject and adjunct phrases) (Huang 1982).

For example, for (29) to be derived, a ‘gap’, and subsequent deletion of an element from that gap, must be postulated (Shi 2000; HLL 2009):

- (31) Wo quan ta shuiguo, zhi xuan [(shuiguo zhong de) pingguo].
 I persuade him fruit, only select [(fruit among DE) apple].
 ‘I persuaded him, (as for) fruit, only to choose apples (amongst fruits).’

However, discourse topics grammatically cross islands when extracted from the nominal expression. Full discussion is not possible here, but it seems Chinese discourse topics violate both Subjacency and CED:

- (32) Wo quan ta shuiguo (Zhangsan) zhi xuan [bu pa chi [(shuiguo zhong de) pingguo] de] ren.
 I persuade him fruit (Zhangsan) only select NEG fear eat apple DE people.
 ‘I persuaded him, (when it comes to) fruit, (Zhangsan) only select(s) people who are not afraid to eat apples.’

For this reason general consensus holds that discourse topics, like sentence-adverbials, are merged directly into spec-TopP.

This creates a neat asymmetry, as derived topics – topics that are sensitive to Subjacency and CED – are incompatible with an overt subject in the embedded clause of a control verb; (35) shows that derived topics are compatible with the embedded clause of a non-control verb:

- (33) *Ta dasuan na yi ben shu mai
 He decide that one CL book sell
 ‘He decided, that book, to sell.’
- (34) *Ta quan Zhangsan na yi ben shu mai.
 He persuade Zhangsan that one CL book buy
 ‘He persuaded Zhangsan, that book, to sell.’
- (35) Ta zhidao na yi ben shu, (ni) mei mai
 He know that one CL book (you) NEG sell
 ‘He knows, that book, you haven’t sold.’

Again, full exposition is not possible here, but to illustrate, in contrast to (32), a derived topic cannot be extracted from the nominal without violating island conditions:

- (36) Ta zhidao ni mei mai [na yi ben shu de zimeipian].
 He know you NEG sell [that one CL book DE sequel]
 ‘He knows you don’t sell that book’s sequel.’
- (37) *Ta zhidao na yi ben shu ni mei mai [(na yi ben shu) de zimeipian].
 He know that one CL book you NEG sell [(that one CL book) DE sequel]
 ‘He knows, that book, you don’t sell, its sequel.’

In view of the different types of syntactic behaviour discussed, it seems safe to conclude that the embedded topic in control structure is base-generated.

5 Theory

Sections Three and Four have shown that overt and covert controlled subjects both appear in non-finite contexts, and that its distribution appears to be restricted to the presence of a base-generated topic in the embedded CP; Section Five seeks an explanation from the internal structure of the embedded CP.

It has been independently claimed that the CP of an embedded or non-root clause is ‘weaker’ than its root counterpart in Mandarin. For example Gasde and Paul (2006) show that various elements occur exclusively in non-root contexts; it also appears that the type, distribution and number of elements associated with CP is severely limited. For example, particles associated with Force are largely excluded from non-root contexts, and the any question particles (which are realised sentence finally) are interpreted as questioning

the matrix and not the embedded predicate (Li 1992: 153; Paul 2010). This has led to the claim that “there is no split CP in embedded contexts, where not more than one C head is licit, if any” (Paul 2010: 28).

However, following discussion in Section Two (as well as Chomsky and Lasnik 1993, Chomsky 2001, Landau 2006 etc.), T of an embedded clause is assigned its relevant features (e.g. Finiteness) from C. Given that it has been established that all controlled embedded clauses are non-finite, and that a topic may also be present in a non-finite embedded clause, more than one functional C-head must be postulated, and Paul’s strong claim cannot be maintained. Yet the observation that the embedded C is somehow ‘defective’ could prove productive (Paul 2010; see also Bhatt and Yoon 1991, Bianchi and Frascarelli 2010 etc.).

Under the standard Agree relation a probe agrees with a goal it c-commands. The values of the goal match those of the probe, and these are copied into the categories entering the Agree relation. Roberts (2010) suggests ‘structurally deficient’ elements behave differently (where deficiency can be thought of as lacking layers of functional structure in the sense of Cardinaletti and Starke 1999). Defective elements (in Robert’s discussion, clitics) contain only a subset of the features of another (e.g. weak pronouns). Thus, when a defective goal enters an Agree relation “copying the features of the goal exhausts the contents of the goal” (Roberts 2010: 60). This in effect equates Agree of a defective goal with Move, with two sets of features forming a chain. Following Chain Reduction, any identical copies of the chain are then deleted, leaving only the highest (Nunes2004). In the context of defective goals, the account predicts that as a defective goal will always constitute an identical copy to (a subset of the features of) the probe it must delete.⁵

It has already been suggested that the Mandarin non-root-C does not project the full range of functional heads associated with the structure of matrix-C (such as Force (Paul 2010)). In order to extend the deficient goal account to Mandarin, the embedded subject DP must be deficient with respect to this CP.

Although embedded may be deficient relative to the matrix-C, given that it has been shown to host at least a FiniteP and TopicP, it seems plausible that embedded CP carries more features than the pronoun to which it assigns Case. As the pronoun contains only a subset of the features of the probe C^0 , the pronoun constitutes a defective goal. Entering an Agree relation with C^0 thus exhausts the features of the pronoun goal, and following Chain Reduction, obligatorily deletes.

However, it is possible to argue that embedded C^0 enjoys this full featural content *only* when syncretic. Crucially, as discussed in Sections Two and Three, the Topic splits syncretic C^0 into distinct heads, splitting the relevant features between the functional heads in the process; if this is the case, the unique FiniteP now carries fewer features than syncretic C^0 . FiniteP assigns T Finiteness and Case as before (but not Null Case),

⁵ Nb. in a Match relationship the contents of a Goal is not exhausted, so copies are not identical (Roberts 2010: 61)

but the pronoun to which it assigns Case is not a subset of the features on FiniteP and therefore a chain is not formed. As the copies are non-identical, the pronoun may be spelt out.

An immediate problem with this is why the same account does not hold true for English, where a Topic cannot license an overt subject in an embedded non-finite clause (in fact Topics cannot occur at all in this context) (see McCloskey 2006 for discussion):

- (38) * I arranged [_{C0}∅[_{TOP}P[if it's sunny]] [_{TP}to come tomorrow]

A possible clue lies in how the two types of embedded subject can be realised; not only do they differ from one another, but also from what is possible in English.

In English, split control is exhibited widely (see Landau 2003, 2006 for discussion). However, in Chinese, split-control is dispreferred in bare control structures, but is accepted with a Topic (compare the ungrammatical Chinese with the acceptable English translations).

- (39) *Wo zhunbei women yiqi lai
I expect we together come
'I expect we will come together.'
- (40) (??)Wo dasuan women yiqi qu.
I plan we together go
'I plan we will go together.'
- (41) Wo dasuan tian hei yihou women yiqi qu
I plan sky dark after we together go
'I plan that we go together after it gets dark.'
- (42) Wo zhunbei mingtian xiaowu tian hei yihou women yiqi lai
I plan tomorrow afternoon sky dark after we together go
'I plan that we go together after it gets dark.'

The distribution of full (overt) reflexives suggests a further asymmetry between bare control structures, those containing an embedded topic and English. Unlike English, Chinese embedded structures always permit an overt reflexive subject (Xu 2003: 90).

- (43) *He tried himself to complete the work in two days.

- (44) Ta shefa ziji liang tian nei wancheng zhe jian gongzuo.
 He try self two days that complete this piece work
 ‘He tried himself to complete the work in two days.’

A coordination construction indicates the reflexive is not adverbial.

- (45) Ta shefa ziji he buxia yiqi liang tian nei wancheng zhejian gongzuo.
 He try self and colleagues together two days that complete this piece work
 ‘He tried himself together with his colleagues to complete the work in two days.’

However, my informants agreed that use of a reflexive is dispreferred following the base-generated topic.

- (46) Ta zai shefa qunian (*ziji) he laopo, erzi yiqi yimin.
 He at try next-year (*self) and wife, son together immigrate
 ‘He is trying to immigrate next year together with his wife and son.’
- (47) Zhangsan dasuan jin nian xiatian he laopo, erzi dou qu Qingdao du jia
 Zhangsan plan this year summer (*ziji) and wife, son all go Qingdao spend summer
 ‘Zhangsan plans to spend his holidays in Qingdao with his wife and son this summer.’

Finally, it appears that although it is possible to obtain an arbitrary reading of the bare embedded subject, if the controlled embedded subject is null then an arbitrary reading is not possible; instead it is interpreted as coreferent with the matrix subject.

A possible explanation is that where a controlled subject is null in the presence of a topic it is a null reflexive. As the reflexive is a long-distance anaphor, it is bound by a subject (subject orientation).⁶

Although these observations suggest that bare, topic-present and English control constructions do not exhibit precisely the same relationship between CP and subject, and thus that one analysis need not be uniformly applied, the distribution of DP-types in turn raises a host of new questions.

In particular, a long-running question asks whether control should be analysed as movement (see i.a. Hornstein 1999, Hornstein et al. 2010), or whether it is an Agree relation (e.g. Landau 2003, 2006); the

⁶ The Mandarin LD reflexive is notoriously complex (see Pan 1997 for discussion); it would be interesting to see whether properties such as the Blocking Effect also hold for the postulated null reflexive.

types of DP that may undergo control have been crucial to this debate. The extent to which the data discussed here is compatible with either approach is not immediately clear; intuitively under these analyses the topic would act as an intervener in the relation between the matrix and embedded subjects. This in turn raises the question as to whether the embedded control clause is a phase, and if so, what constitutes the phase head of the syncretic or split-C. Following the Phase Impenetrability Condition, a domain of a phase head is impenetrable to any external probe (Chomsky 2001, 2008). For example, if split-C constitutes a phase head the matrix clause cannot probe the embedded structure; this could be brought to bear on the distribution of reflexives. These are substantial issues in syntactic theory that cannot be done justice here, but they offer useful questions for future investigation.

6 Conclusion

The distribution of overt and covert controlled arguments seems to be systematically determined by properties of the CP structure, specifically the presence or otherwise of a base-generated topic. The phenomenon has raised a range of interesting questions regarding the internal structure of the Mandarin CP which cannot be fully explored here. I leave these issues to future research.

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