Rethinking raising vs. control/predication analyses of Mandarin bei-passives*

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1. Introduction

Passivization in Mandarin involves the promotion of an internal argument (IA) to a <u>surface subject</u> (SS) position as shown in the passive construction marked by *bei* (1b).

(1) a. Lisi da le Zhangsan Lisi hit PRF Zhangsan 'Lisi hit Zhangsan.'

- b. Zhangsan bei (Lisi) da le Zhangsan BEI Lisi hit PRF 'Zhangsan was hit (by Lisi).'
- → Research question: Is the SS base-generated in the subject position (External Merge), or moved from the complement of the verb (Internal Merge)?
- → Goals of this talk:
 - to review four existing analyses in the literature (2)
 - (2) a. **Base-generation control/predication analyses:** The SS is base-generated.
 - i. distinguishing long vs. short passives (e.g., Huang 1999)
 - ii. unifying long and short passives (Ngui 2020)
 - b. Raising analyses: The SS raises from the complement of the verb.
 - i. raising with two equidistant Spec vP positions (e.g., part of Liu & Huang 2016)
 - ii. raising with A-movement following composite A/A'-movement (Chen 2021)
 - to re-evaluate two diagnostics used in these literature: the **agent-oriented adverb** test and the **quantifier floating** in *bei*-passives

2. Base-generation control/predication analyses

2.1. Distinguishing long vs. short passives (e.g., Ting 1998, Huang 1999, Huang et al. 2009)

Huang (1999) shows that (1b) conflates two distinct structures: **Long passives** with the overt external argument (EA), e.g., *Lisi* in (3a), have A'-properties but **Short passives** (3b) without the EA do not. For example, only long passives allow **long-distance dependencies**, as in (4b).

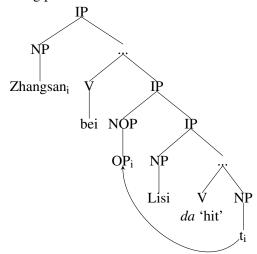
- (3) a. Zhangsan **bei** Lisi da le Zhangsan BEI Lisi hit PRF 'Zhangsan was hit by Lisi.'
- b. Zhangsan bei da leZhangsan BEI hit PRF'Zhangsan was hit.'

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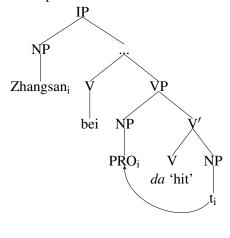
- (4) a. Lisi pai jingcha zhua-zou le Zhangsan Lisi send police arrest PRF Zhangsan 'Lisi sent the police to arrest Zhangsan.'
 - b. Zhangsan **bei** *(Lisi) pai jingcha zhua-zou le (Huang 1999; (24)) Zhangsan BEI Lisi send police arrest PRF 'Zhangsan was "sent-police-to-arrest" by Lisi.'

Huang (1999) proposes that long passives derive from A'-movement of a null operator (NOP) (5a) and short passives A-movement of a PRO (5b), hence the asymmetry in (4b).

(5) a. Long passives: A'-movement



b. Short passives: A-movement



According to this analysis, both long and short passives contain a base-generated SS. The motivation for this claim is to be discussed in Section 3.

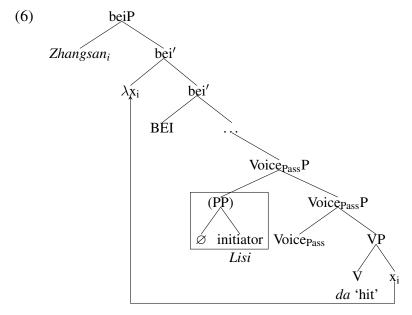
2.2. Unifying long and short passives (Ngui 2020)

Ngui (2020) also proposes that the SS is base-generated. However, he disagrees with some data judgements in the previous literature and claims that both long and short passives show A'-properties and both long and short passives derive from an NOP/A'-extraction as in (5a).¹

Following Legate (2014) and Bruening & Tran (2015), he proposes that **the EA in Mandarin passives is not syntactically projected**. Instead, it is existentially bound by the Voice_{Pass}, and semantically restricted by **an initiator PP** as shown in (6). The initiator *Lisi* is not the EA.

¹For example, long-distance dependency in the short passive (1) becomes grammatical when the adverb *xunsude* 'rapidly' is added:

^{(1) [}di chuan]_i bei *(xunsude) [pai haijun [ji-chen-le x_i]] enemy ship BEI rapidly send navy attack-sink-PRF 'The enemy ship was rapidly sent-navy-to-sink.'



In this analysis, the initiator PP is an optional adjunct (i.e., overtly present in long passives but not short passives). → **Problem:** the binding tests in (7) and (8) show that **the initiator is in fact an argument (i.e., EA/embedded subject) c-commanding the VP** (at least in long passives).

- Both the SS and the EA can bind a subject-oriented logophor ziji 'self'
 - (7) **Zhangsan**i bei **Lisi**j guan zai **ziji**_{i/j}-de fangjian (Huang 1999; (15)) Zhangsan BEI Lisi lock at self-GEN room 'Zhangsan_i was locked by Lisi_i in his_{i/i} own room.'
- Both the SS and the EA can bind an indirect object anaphor ta-ziji 'himself/herself'
 - (8) a. youjian bei **Zhangsan**_i fa-gei le **ta-ziji**_i email BEI Zhangsan send-to PRF 3SG-self 'The email was sent to himself_i by Zhangsan_i.'
 - b. **Lisi**_j bei **Zhangsan**_i fenpei-gei le **ta-ziji**_{i/j} Lisi BEI Zhangsan assign-to PRF 3SG-self 'Lisi_j was assigned to himself_{i/j} by Zhangsan_i.'

3. Rethinking the diagnostic for a base-generated SS: Volitional/'agent-oriented' adverb test and its problem

Huang (1999) argues for a base-generated SS due to the fact that it can associate with an Agent-oriented adverb above *bei*, as *guyi* 'intentionally' in (9).

(9) Zhangsan **guyi** bei (Lisi) da le (Huang 1999; (5-6)) Zhangsan intentionally BEI Lisi hit PERF 'Zhangsan intentionally got hit (by Lisi).'

- (10) Premises of Huang's argument
 - a. 'Agent-oriented' adverbs (e.g., *guyi/teyi* 'intentionally', *xinganqingyuan-de* 'willingly', etc.) only associate with Agents (or Experiencers).
 - b. If the SS is generated as the verb complement, it should get a Theme/Patient role from the verb, therefore not being able to get an extra Agent role and associate with an 'agent-oriented' adverb.

With the two premises above, Huang (1999) argues that the IA has to be base-generated as a subject and get an **Agent** θ -role from bei. ²

- ⇒ Problem: (10a) is a problematic assumption. The SS does not need to be an Agent/Experiencer to be associated with a volitional/'agent-oriented' adverb.³
- In fact, these volitional adverbs can be assoicated with the **theme subject** of an unaccusative verb as in $(11)^4$ and even with an **implicit participant** as in (12).
 - (11) a. Zhangsan **guyi/teyi** lai(-wan) le Zhangsan intentionally come-late PRF 'Zhangsan intentionally came (late).'
 - b. Zhangsan **xinganqingyuan-de** si(-qu) le Zhangsan willing-ly die PRF 'Zhangsan willingly died.'
 - (12) yizi **guyi/teyi** (bei) bai-cheng le san-hang chair intentionally BEI arrange-into PRF three-row 'The chairs were intentionally arranged into three rows.'

Interim summary: The volitional adverb test is inconclusive because these adverbs do not require an Agent/Experiencer associate. As a result, there is no direct evidence supporting a basegenerated SS in *bei*-passives.

²or an Experiencer role, as assumed later by Liu & Huang (2016)

³Bruening & Tran (2015) point out that these adverbs 'can add agentivity to clauses that lack it...they should not require that an agent or experiencer role already be assigned, and they do not.' See also Biggs & Embick (2020) for more discussion on the problems of agentivity tests.

⁴Note that with unaccusative verbs (11), the theme has to be a subject otherwise volitional adverbs are not allowed:

⁽¹⁾ a. *guyi lai(-wan) le yi-ge ren intentionally come-late PRF one-CLF person Intended: 'A person intentionally came (late).'

b. *xinganqingyuan-de si le yi-ge ren willing-ly die PRF one-CLF person Intended: 'A person willingly died.'

4. Raising analyses

4.1. Evidence for raising

Two primary arguments in favor of a raising approach (13) of both long and short *bei*-passives are the passivazation with idioms (14) and quantifier floating (15) (e.g., Liu & Huang 2016).

(13) Raising of IA to subject: [Subj₁ BEI [XP (EA) V ____1]]

→ Idiomatic chunks in long and short passives

(14) **pianyi**₁ dou bei (ta) **zhan**-guang le advantage all BEI 3SG take-empty PRF 'All the advantage was taken (by him/her).'

→ Quantifier floating in long and short passives

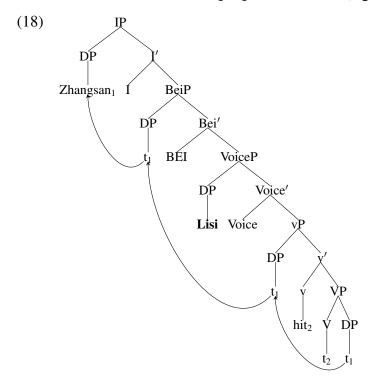
- (15) a. Lisi mai-zou-le [quanbu pingguo]
 Lisi buy-away-PRF all apples
 'Lisi bought all the apples.'
 - b. pingguo₁ **bei** (Lisi) [**quanbu** t₁]₂ mai-zou-le t₂ apple BEI Lisi all buy-away-PRF 'The apples were all bought (by Lisi).'
 - c. pingguo₁ [**quanbu** t_1]₂ **bei** (Lisi) t_2 mai-zou-le t_2 apple all BEI Lisi buy-away-PRF 'The apples were all bought (by Lisi).'

4.2. Dilemma of raising

If the SS derives from movement (Internal Merge), what type of movement is it?

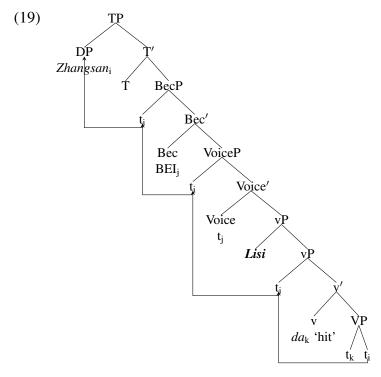
- A-movement of the IA across the EA would violate **Relativized Minimality** (RM).
 - As shown with the binding data in (7)-(8) (repeated below in 16-17), the EA in *bei*-passives must be in an argument position c-commanding the VP, therefore **intervening** the A-movement of the IA from the verb complement position.
 - * Both the SS and the EA can bind a subject-oriented logophor ziji 'self'
 - (16) **Zhangsan**_i bei **Lisi**_j guan zai **ziji**_{i/j}-de fangjian (Huang 1999; (15)) Zhangsan BEI Lisi lock at self-GEN room 'Zhangsan_i was locked by Lisi_i in his_{i/i} own room.'
 - * Both the SS and the EA can bind an indirect object anaphor ta-ziji 'himself/herself'
 - (17) a. youjian bei **Zhangsan**_i fa-gei le **ta-ziji**_i email BEI Zhangsan send-to PRF 3SG-self 'The email was sent to himself_i by Zhangsan_i.'
 - b. **Lisi**_j bei **Zhangsan**_i fenpei-gei le **ta-ziji**_{i/j} Lisi BEI Zhangsan assign-to PRF 3SG-self 'Lisi_i was assigned to himself_{i/j} by Zhangsan_i.'

• A'-movement of the IA across the EA does not violate RM. However, the IA then must move to SS, which is another A-position (Spec, IP) as in (18). This A- after A'-movement leads to violation of the Ban on **Improper Movement** (e.g., Chomsky 1973, 2007, 2008).



4.3. Raising with two equidistant Spec vP (e.g., Liu 2012, Huang 2013, Liu & Huang 2016)

For Liu & Huang (2016), *bei*-passives are amenable to both a **control and/or a raising analy-sis**—depending on context and lexical choice. Their raising derivation is demonstrated in (19).



- → **Reminaing issue**: The A-movement of the IA crossing the EA violates RM.
 - ⇒ Stipulation by Liu & Huang (2016): **Two equidistant Spec vP positions** in Mandarin. The two Spec vP are equidistant to higher destinations of movement. The Voice head *bei* is merged with vP, checks its accusative Case feature with the EA and makes it inactive. Therefore, only the IA at the inner Spec vP remains active and is available for further movement.
 - ⇒ **Problem:** If the two Spec vP positions were really equidistant, what prevents the Voice head from checking the Case feature with the IA instead, leaving the EA available for further movement? **The RM violation remains**.

4.4. Raising with a composite A/A'-movement (Chen 2021)

In line with Kuo (2009), Chen (2021) demonstrated the **mixed A/A'-properties** of Mandarin (long) *bei*-passives.

• A-properties

- Creates new antecedents for binding (see also in this handout (7/16) and (8/17))
- Immune to weak crossover (WCO) effects
 - (20) Zhangsan₁ bei ta₁-de mama piping le ___1 Zhangsan BEI his mother criticize PRF 'Zhangsan₁ was criticized by his₁ mother.'

- No reconstruction for Principle C
 - (21) Zhangsan₁-de erzi₂ bei ta₁ piping le ____2 Zhangsan's son BEI he criticize PRF 'Zhangsan₁'s son₂ was criticized by him₁.'

• A'-properties

- Long-distance dependency, e.g., (4b)
- Creates islands for adjunct A'-movement
 - (22) a. wo xiang zhidao jingcha renwei [Zhangsan weishenme mousha Lisi]

 I want know police think Zhangsan why murder Lisi
 'I want to know what the police think is the reason why Zhangsan murdered Lisi.'
 - b. ?? wo xiang zhidao Zhangsan_i bei (jingcha) renwei [t_i weishenme
 I want know Zhangsan BEI police think why
 mousha Lisi]
 murder Lisi
 Intended: 'I want to know what is thought (by the police) to be the reason
 why Zhangsan murdered Lisi.'

Adopting the composite A/A'-movement approach for English *tough*-constructions (van Urk 2015, Longenbaugh 2016), Chen (2021) stipulates that BEI in Mandarin *bei*-passives holds **both a** ϕ -probe and an A'-probe. They jointly trigger a composite A/A'-movement of a DP with both A- and A'-features, namely the IA, hence the mixed A/A'-properties.

(23) Composite A/A'-movement feeding A-movement:

[IP DP [BEIP t BEI (Subj) [VP V (...) t]]

[A-movement | ______ A/A'-movement ______

→ Potential advantages

- No RM violation while maintaining the argument status of the EA: The composite A/A'-probes on BEI attract only the IA but not the EA (the latter has only ϕ -feature but no A'-features).
- No Improper Movement *if* A-movement following a composite A/A'-movement does not violate the Ban on Improper Movement.
- → Potential problem: No independent evidence for composite A/A′-movement in Mandarin. ⁵

5. Rethinking the quantifier floating diagnostic for raising

Following Sportiche (1988), Liu & Huang (2016) took (15) (repeated below in 24) as a diagnostic for movement, as the quantifier quantu 'all' can be stranded below bei in both long and short bei-passives (24b).

⁵Chen (2021) claimed that three 'anti long-distnace effects' in *bei*-constructions support her composite movement derivation. See the discussion in Appendix A.

- (24) a. Lisi mai-zou-le [quanbu pingguo] Lisi buy-away-PRF all apples 'Lisi bought all the apples.'
 - b. pingguo₁ **bei** (Lisi) [**quanbu** t₁]₂ mai-zou-le t₂ apple BEI Lisi all buy-away-PRF 'The apples were all bought (by Lisi).'
 - c. pingguo₁ [**quanbu** t₁]₂ **bei** (Lisi) t₂ mai-zou-le t₂ apple all BEI Lisi buy-away-PRF 'The apples were all bought (by Lisi).'

However, the new data below indicate *quanbu* 'all' can also be a quantificational adverb, not necessarily a quantifier:

- The distribution of quanbu 'all'. In (25), quanbu 'all' occurs before ba, independent of the quantified DP pingguo 'apple', which cannot easily be explained by a Q-stranding analysis but follows natrually from quanbu being an adverb.
 - (25) Lisi **quanbu** ba pingguo mai-zou le Lisi all BA apple buy-away PRF 'Lisi bought all the apples.'
- The occurrence of *dou* in the presence of *quanbu*. ⁶

As shown in (26)-(28), *dou* is obligatory in the (a) sentences with [$_{QP}$ *quanbu* [$_{DP}$ *pingguo*]]; however, it becomes optional in the (b) sentences if—under to the Q-stranding view—the quantifier *quanbu* is stranded [$_{QP}$ *quanbu* <[$_{DP}$ *pingguo*]>].

(26) a. Object fronting

Lisi **quanbu** pingguo *(**dou**) mai-zou le Lisi all apples DOU buy-away PRF 'Lisi bought all the apples.'

b. Object fronting with Q-stranding

Lisi pingguo **quanbu** (**dou**) mai-zou le Lisi apples all DOU buy-away PRF 'Lisi bought all the apples.'

(27) a. ba-construction

Lisi ba **quanbu** pingguo *(**dou**) mai-zou le Lisi BA all apple DOU buy-away PRF 'Lisi bought all the apples.'

b. ba-construction with Q-stranding

⁶The particle *dou* is associated with a preceding nominal expression and universally distributes over the subparts of the denotation of its associate; it is a pre-exhaustification exhaustifier operating on sub-alternatives (Xiang 2020; a.o.).

Lisi ba pingguo **quanbu** (**dou**) mai-zou le Lisi BA apple all DOU buy-away PRF 'Lisi bought all the apples.'

(28) a. Topicalization

quanbu pingguo Lisi *(**dou**) mai-zou le all apples Lisi DOU buy-away PRF 'All the apples, Lisi bought.'

- b. Topicalization with Q-stranding pingguo Lisi quanbu (dou) mai-zou le apples Lisi all DOU buy-away PRF 'Apples, Lisi bought all.'
- \rightarrow The contrast in (26)-(28) is not expected if the (b) sentences derive from the (a) sentences via Q-stranding of *quanbu*. I propose that *quanbu* 'all' has a dual-status:
 - When *quanbu* is a **quantifier**, it forms a constituent with the DP it quantifies, such as [OP quanbu [DP pingguo]]. In this case, *dou* is obligatory.
 - When it is a **quantificational adverb**, it selects/adjoins to the vP that it modifies. In this case, *dou* is optional.

In *bei*-passives, the same pattern is observed: *dou* is oblogatory with [QP *quanbu* [DP *pingguo*]] in (29c) but optional in (29a) and (29b). Crucially, when *quanbu* occurs below *bei* in (29a), *dou* is optional, suggesting that *quanbu* is a quantificational adverb below *bei*, contrary to the analysis of Liu & Huang (2016).

- (29) a. pingguo bei Lisi **quanbu** {(**dou**)} mai-zou le apple BEI Lisi all DOU buy-away PRF 'The apples were all bought by Lisi.'
 - b. pingguo **quanbu** {(**dou**)} bei Lisi mai-zou le apple all DOU BEI Lisi buy-away PRF 'The apples were all bought by Lisi.'
 - c. **quanbu** pingguo {*(**dou**)} bei Lisi mai-zou le all apple DOU BEI Lisi buy-away PRF 'All of the apples were bought by Lisi.'

Interim summary: The apparent 'quantifier floating' phenomenon is not a reliable diagnostic for movement in Mandarin.

6. Summary & Discussion

6.1. Previous proposals on Mandarin bei-passives

	Short passives	Long passives
Ting 1998, Huang 1999, HLL 2009, etc.	Base-generated SS controlling PRO	Base-generated SS predicated by NOP
Ngui 2020	Base-generated SS predicated by NOP (with Initiator as optional PP adjunct)	
Liu 2012, Huang 2013, Liu & Huang 2016	Raising (with two equidistant Spec vP) and/or control	
Chen 2021	Raising (with BEI triggering composite A/A'-movement)	

6.2. Re-examining previous diagnostics

- Diagnostic for a base-genrated SS
 - X Violitional adverb test–not conclusive as these adverbs do not require an Agent/Experiencer
- Diagnostics for a derived SS
 - ✓ Passvization of idiomatic chunks
 - **X** Quantifier floating in *bei*-passives—not conclusive as the 'quantifier floating' phenomenon might be an adverb usage of the 'quantifier'.
- \Rightarrow The differences between raising vs. base-generationg control/predication analyses can (at least) be narrowed down to the passvization of idiomatic chunks.

6.3. Composite A/A'-movement (30) vs. NOP movement (31): More alike than different

(30)	Composite A/A'-movement feeding A-movement (Chen 2021	
	[P] DP [BEIP t BEI (Subj) [VP V () t]]	
	_ A-movement _ A/A'-movement	
(31)	The NOP movement in long bei-passives (e.g., Huang 1999)	
	[P] DP BEI $[P] NOP$ $[P] Subj$ V $()$ t	

Similarities

• The **mixed A/A'-properties** of (long) *bei*-passives

- For Huang's NOP analysis, the mixed A/A'-properties come for free:
 - ➤ A-properties: The base-generated SS binds the logophor in (7) and the anaphor in (8). Since the SS does not move, there is no WCO effect (20) nor reconstruction for Principle C (21).
 - \rightarrow A'-properties result from the A'-movement of the NOP.
- By contrast, Chen's analysis stipulates that a composite A/A'-movement automatically derive the mixed A/A'-properties
- Both do not violate RM while maintaining the argument status of the EA.
- The NOP movement does not create an **Improper Movement**, neither does the composite movement if we assume that A-movement following a composite A/A'-movement does not violate the Ban on Improper Movement.

Difference: base-generated SS in (31) vs. derived SS in (30).

• As discussed before, the differences between these two approaches (and, more generally, between raising vs. control analyses of *bei*-passives) can be narrowed down to their explanation for (14) the passivization of idiom chunks. The base-generation analysis cannot easily account for it.

Appendix

A. 'Anti long-distnace effects' in bei-constructions

his2/*1 mother] is Lisi.

Chen (2021) claimed that the following three 'anti long-distnace effects' in *bei*-constructions support her composite movement derivation (23).

• When two DPs A'-move from the complement to BEI, only the DP closer to BEI can be the subject of BEI

```
(32)
      Two DPs A'-moving
       a. [Zhangsan1 (zhe-ming jingcha),
                                              1/*2
                                                             ziji1/*2-de mama mingling
                                                     bei
           Zhangsan
                      this-CL
                                  policeman
                                                     BEI
                                                             self's
                                                                        mother order
                          2 ] de xiaotou2
           1 shenxun
                                             shi
                                                     Lisi.
                              Rel thief
                                             COP
               interrogate
                                                     Lisi
           'The thief2 such that [Zhangsan1 (this policeman), (he1/*2) was ordered to interrogate (him2) by
           his 1/*2 mother] is Lisi.
       b. [Zhangsan1 (zhe-ge xiaotou),
                                         2/*1
                                                         ziji2/*1-de mama mingling
                                                 bei
           Zhangsan
                     this-CL thief
                                                 BEI
                                                         self's
                                                                     mother order
           2 shenxun
                          1 de jingcha2
                                             shi
                                                     Lisi.
                              Rel policeman
                                             COP
                                                     Lisi
           'The policeman2 such that [Zhangsan1 (this thief), (he2/*1) was ordered to interrogate (him1) by
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• In a short bei-passive, a case-less DP must be the SS to receive case from Infl.

- (33) When EA is not present, mingling 'order' does not assign case to Lisi
 - a. Zhangsan1 bei [*(wo) mingling Lisi [shenxun-guo _1]].

 Zhangsan BEI I order Lisi interrogate-Exp

 'Zhangsan was once order-Lisi-to-interrogate-ed *(by me).'
 - b. Lisi bei (wo) mingling _1 [shenxun-guo Zhangsan].
 Lisi BEI I order interrogate-Exp Zhangsan
 'Lisi was once ordered to interrogate Zhangsan (by me).'
- Only the subject of a finite clause can hyper-raise to be the SS
 - (34) *renwei* embeds a finite clause
 - a. *Lisi1 bei (jingcha) renwei [Zhangsan mousha-le _1].

 Lisi BEI police think Zhangsan murder-Perf

 INT: 'Lisi was thought (by the police) that Zhangsan murdered.'
 - b. Zhangsan1 bei (jingcha) renwei [_1 mousha-le Lisi].
 Zhangsan BEI police think murder-Perf Lisi
 'Zhangsan was thought (by the police) to have murdered Lisi.'

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