



- (2) a. A: Zhangsan da le yi-ge-ren. B: (Shi) shei a?  
 Zhangsan hit ASP someone SHI who SFP<sub>3</sub>  
 ‘A: Zhangsan hit someone. B: Who?’
- b. Zhangsan da le yi-ge tongxue. Ni zhidao (shi) na-ge tongxue ma?  
 Zhangsan hit ASP some classmate 2sg know SHI which classmate SFP<sub>2</sub>  
 ‘Zhangsan hit some classmate. Do you know which classmate?’

These facts raise a second question: exactly when can the copula be dropped? Several claims have been made in the literature regarding this question. (3) gives a non-exhaustive summary:

- (3) a. Claim 1: the copula can be dropped when the *wh*-phrase is complex or an adjunct (e.g., Adams 2004; Wei 2004; Adams & Tomioka 2012).
- b. Claim 2: the copula can be dropped in matrix sluicing (e.g., Wang & Wu 2006).<sup>3</sup>
- c. Claim 3: the copula can be dropped when the sluice is not embedded under a non-factive verb like *think* (e.g., Li & Wei 2023).<sup>4</sup>

Finally, knowing the answer to ‘when can the copula be dropped’ raises yet another question: why can the copula be dropped, and if the copula can be dropped under exactly certain conditions, why those conditions? There are thus three questions needing to be answered:

- (4) a. Question 1: how are Mandarin SLCs derived s.t. a copula can precede the *wh*-phrase?
- b. Question 2: exactly when can the copula be dropped?
- c. Question 3: why can the copula be dropped and why only under certain conditions?

Question 2 will be addressed experimentally through two naturalness rating experiments in §2 and 3. The experiments find that the copula can only be dropped in matrix sluicing. §4 then tackles Question 1. I present three novel arguments showing that the copula *shi* can precede the *wh*-phrase in Mandarin SLCs because sluicing with *shi* is underlyingly copular. §5 finally addresses Question 3. While I do not make a positive proposal, I argue that unlike sluicing with copula, sluicing without copula is not underlyingly copular. §6 concludes.

**2. Experiment 1.** Claim 2 from the literature says that the copula can be dropped in matrix but not embedded sluicing. The goal of Experiment 1 is to determine whether this claim is correct. That is, its goal is to determine whether the type of sluicing (i.e., embedded vs. matrix sluicing) affect the naturalness of sluicing constructions with and without copula.

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- (ii) Ni juede (shi) na-ge tongxue (ne)?  
 2sg think SHI which classmate SFP<sub>2</sub>  
 ‘Which classmate do you think (it is)?’

<sup>3</sup> It is worth noting that while Claim 2 does exist in the literature, most authors focus on only embedded sluicing and do not discuss matrix sluicing.

<sup>4</sup> Claim 3 is deliberately left unexamined in this paper, though a pilot experiment did find that the type of the matrix verb has no effect on the naturalness of sluicing constructions without copula.

2.1. DESIGN. 4 target conditions were created by crossing the factors in (5). 3 minimal pairs of sentences were created for each target condition, where sentences in each minimal pair differed only in the presence of the copula, for a total of 24 sentences in 12 minimal pairs. Each target question consisted of one such minimal pair.

- (5) Complexity of the *wh*-phrase: complex  
 Type of sluicing: embedded, matrix  
 Animacy of the *wh*-phrase: animate, inanimate

In (5), the complexity of the *wh*-phrase is the control variable and is kept constant at complex *wh*-phrases (e.g. *what book, which book*). The type of sluicing is the independent variable being varied between embedded and matrix sluicing. The animacy of the *wh*-phrase is treated as a random variable that varied between animate (e.g. *who*) and inanimate *wh*-phrases (e.g. *what*).

All target sentences contained an antecedent clause followed by a sluiced sentence. All antecedent clauses had the structure (Adv-)NP<sub>1</sub>-V-Asp-NP<sub>2</sub>, where NP<sub>1</sub> is a proper name and NP<sub>2</sub> is an indefinite expression (e.g. *someone, some student*). For embedded sluicing, all sluiced sentences had the structure 2sg-V-(*shi*)-*wh*-SFP<sub>2</sub>, where V is the verb embedding the sluice and SFP<sub>2</sub> is a Class 2 sentence-final question particle (SFP). For matrix sluicing, all sluiced sentences had the structure (*shi*)-*wh*-SFP<sub>3</sub>, where SFP<sub>3</sub> is a Class 3 sentence-final question particle. (6a-6b) are examples of two such target sentences.

- (6) a. Zhangsan pengjian le yi ge tongxue. Ni zhidao (shi) shei ma?  
 Zhangsan bump.into ASP one CLF classmate 2sg know SHI who SFP<sub>2</sub>  
 ‘Zhangsan bumped into a classmate. Do you know who?’ (Embedded sluicing)
- b. A: Zhangsan da le yi-ge-ren. B: (Shi) shei a?  
 Zhangsan hit ASP someone SHI who SFP<sub>3</sub>  
 ‘A: Zhangsan hit someone. B: Who?’ (Matrix sluicing)

Sentences in each minimal pair were presented side-by-side in order to draw out relative preferences between the two forms, following Marty et al. (2020). Participants were asked to rate on a continuous slider how natural each sentence sounds, where ‘natural’ was defined in the instructions to mean something the participants would say themselves. Each minimal pair was also preceded by a one- to two-sentence context and a picture depicting that context.

2.2. RECRUITMENT AND PROCEDURE. 50 adult participants were recruited on Prolific Academic. Participants were prescreened on Prolific for their first language (Chinese, Mandarin). One additional participant was recruited through informal personal communication. Participants recruited on Prolific were compensated with an hourly rate of \$12/hr.

Each participant saw 3 training questions prior to seeing the target questions. The training questions consisted of one question where both sentences in a minimal pair were very natural, one where both were very unnatural, and one where one is more natural than the other. The goal of the training questions was to familiarize participants with the task, encourage them to make use of the full slider scale, and discourage them from consistently rating one sentence higher than the other.

Each participant also saw 16 filler questions and 2 control questions in addition to the 12 target questions. Each filler and control question consisted of a minimal pair of two sentences that differed only in terms of one to a few words or word order between two words.

The order of presentation of all target, filler, and control questions were randomized. Sentences in each minimal pair were also randomly flipped. In order to prevent participants from failing to notice the minuscule differences between each sentence in a minimal pair due to the randomization, participants were asked explicitly in the instructions to pay close attention and never assume any two sentences to be the same even if they appear highly similar.

2.3. PREDICTIONS. Based on Claim 2 from the existing literature, participants are predicted to rate matrix sluicing without copula higher than embedded sluicing without copula. Matrix and embedded sluicing with copula are predicted to have similar ratings.

2.4. RESULTS. Ratings from 2 participants were excluded from analysis because they indicated in a demographic question that their native language is not Mandarin Chinese. Ratings from the remaining 49 participants were z-scored prior to analysis to accommodate for scale bias. Figure 1 (left and center) visualizes the distribution of ratings across target conditions.

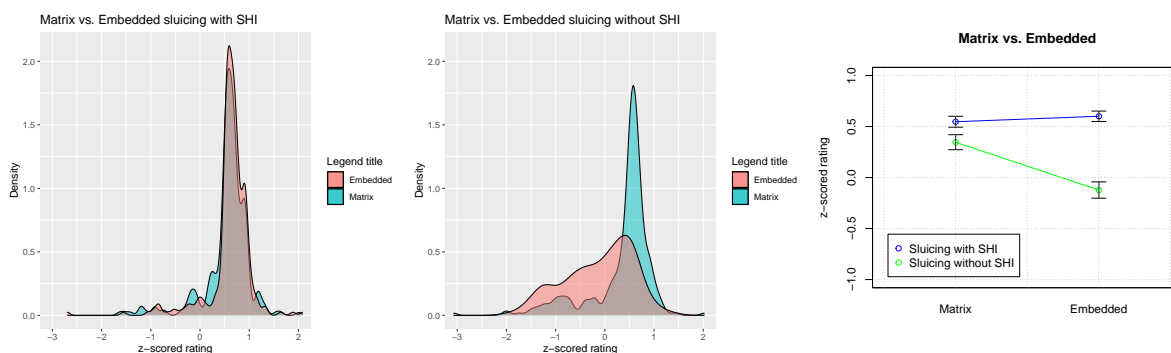


Figure 1. Matrix vs. embedded sluicing

For sluicing with copula, participants tended to rate both matrix and embedded sluicing high. For sluicing without copula, participants tended to rate matrix sluicing significantly higher than embedded sluicing. Figure 1 (right) tells a similar story. The mean z-scored ratings for matrix and embedded sluicing with copula are similarly high, while the mean rating for matrix sluicing without copula is significantly higher than embedded sluicing without copula.

A simple linear regression model was used to analyze the dependence of z-scored ratings on the type of sluicing. The model revealed a significant effect of the type of sluicing on the ratings of sluicing constructions without copula, where embedded sluicing decreases ratings ( $\beta=-0.47$ ,  $p<0.001$ ).

2.5. DISCUSSION. Results from Experiment 1 confirmed Claim 2: the copula can be dropped in matrix sluicing, but not embedded sluicing. This difference between matrix and embedded sluicing in Mandarin SLCs is rarely discussed in the literature, but has important ramifications for any proposed answers to Question 1 and 3. §4 and §5 will address these ramifications in detail.

**3. Experiment 2.** Claim 1 from the literature says that the copula can be dropped when the *wh*-phrase is complex or an adjunct. The goal of Experiment 2 is to determine whether this claim is correct. Experiment 2 will however concentrate on *wh*-arguments and leave *wh*-adjuncts for

future studies.<sup>5</sup> The goal of Experiment 2 is then to determine whether the complexity of the *wh*-phrase (i.e. simple vs. complex *wh*-phrase) affect the naturalness of sluicing constructions with and without copula.

3.1. DESIGN. Experiment 2’s design is the exact same as Experiment 1 except for the factors involved. Target conditions of Experiment 2 were created by crossing the factors in (7) instead.

- (7) Complexity of the *wh*-phrase: simple, complex
- Type of sluicing: embedded
- Animacy of the *wh*-phrase: animate, inanimate

The complexity of the *wh*-phrase is now the independent variable being varied between simple and complex *wh*-phrases (e.g. *what* vs. *what book*). The type of sluicing is the control variable kept constant at embedded sluicing. The animacy of the *wh*-phrase is still treated as a random variable. A total of 24 target sentences in 12 minimal pairs were created, and each target question still consisted of one such minimal pair.

3.2. RECRUITMENT AND PROCEDURE. Similar to Experiment 1, 50 adult participants were recruited on Prolific Academic, and participants were prescreened on Prolific for their first language (Chinese, Mandarin). Participants recruited for Experiment 1 were also excluded from Experiment 2 using Prolific’s prescreen tool. All participants were compensated with an hourly rate of \$12/hr. Each participant in Experiment 2 saw 2 more filler questions than participants in Experiment 1. All other aspects of the experimental procedure remained the same.

3.3. PREDICTIONS. Based on Claim 1 from the literature, participants are predicted to rate sluicing without copula that have complex *wh*-phrases higher than those that have simple ones. Sluicing with copula is predicted to be rated high regardless of the complexity of the *wh*-phrase.

3.4. RESULTS. Ratings from 5 participants were excluded from analysis because they indicated in a demographic question that their native language is not Mandarin Chinese. Ratings from the remaining 45 participants were z-scored prior to analysis. Figure 2 (left and center) shows the distribution of ratings across target conditions.

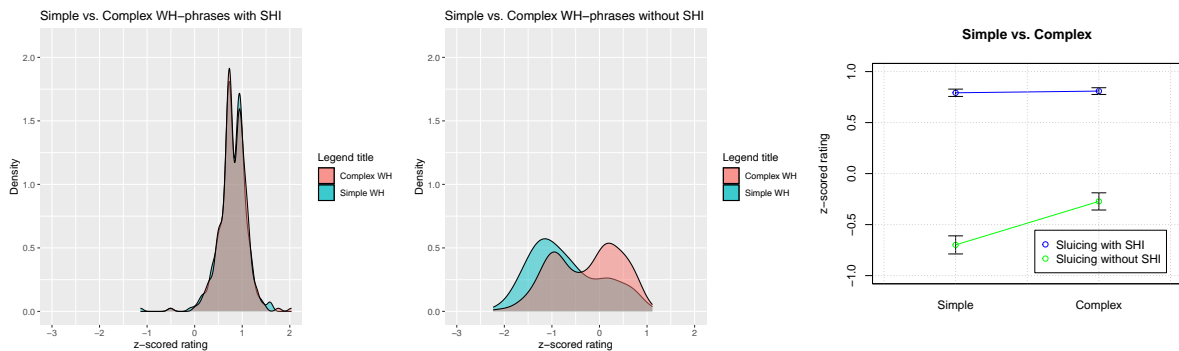


Figure 2. Simple vs. complex *wh*-phrases

<sup>5</sup> For what it is worth, a pilot experiment did find *wh*-adjuncts to not have an effect on the naturalness of sluicing constructions without copula. For reasons of space, the pilot experiment will not be discussed in this paper.

Participants tended to rate sluicing with copula high regardless of the complexity of the *wh*-phrase. Participants did tend to rate sluicing without copula that have complex *wh*-phrases higher than those that have simple ones, but the preference is not pronounced.

Figure 2 (right) repeats this pattern. The mean z-scored ratings for sluicing with copula that have simple *wh*-phrases and those that have complex ones are both high, while the mean rating for sluicing without copula that have complex *wh*-phrases is significantly higher than sluicing without copula that have simple *wh*-phrases. However, the mean ratings for (embedded) sluicing without copula as a whole are also significantly lower than (embedded) sluicing with copula, regardless of the complexity of the *wh*-phrase.

A simple linear regression model was used to analyze the dependence of z-scored ratings of sluicing constructions on the complexity of the *wh*-phrase. The model confirmed a significant effect of *wh*-phrase complexity on the ratings of sluicing constructions without copula, where complex *wh*-phrases increase ratings ( $\beta=0.43$ ,  $p<0.001$ ).

3.5. DISCUSSION. Results from Experiment 2 confirmed Claim 1: the copula can be dropped when the *wh*-phrase is complex or an adjunct, but not when it is simple. However, compared to the effect that the type of sluicing has on the ratings of sluicing without copula (found in Experiment 1), the effect of *wh*-phrase complexity was much less pronounced. I hypothesize that this preference for complex *wh*-phrases simply represented a general preference for complex *wh*-phrases not specific to sluicing.

In Experiment 2, participants also tended to rate *non-sluicing* sentences with complex *wh*-phrases higher than those with simple *wh*-phrases in the same minimal pair.<sup>6</sup> Figure 3 shows the distribution of ratings for those sentences.

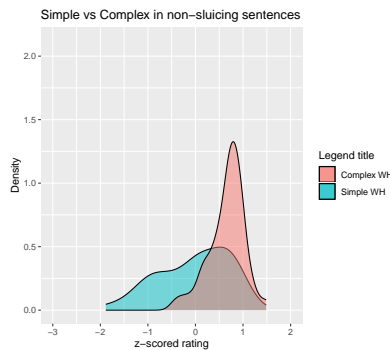


Figure 3. Simple vs. complex *wh*-phrases in non-sluicing constructions

A simple linear regression model was also used to analyze the dependence of z-scored ratings of non-sluicing constructions on *wh*-phrase complexity. The model found a significant effect of *wh*-phrase complexity on the ratings of non-sluicing constructions, where complex *wh*-phrases increase ratings ( $\beta=0.69$ ,  $p<0.001$ ), confirming the participants' preference for complex *wh*-phrases in general.

In conclusion, although results from Experiment 2 confirmed Claim 1, I argued that Claim 1 simply picked up on a general preference for complex *wh*-phrases, not a preference for complex

<sup>6</sup> These non-sluicing sentences were part of the fillers. Sentences in each such minimal pair differed only in the complexity of the *wh*-phrase.

*wh*-phrases specifically in sluicing.<sup>7</sup> Taking Experiment 1 and 2 together, the results from these experiments thus show that the copula *shi* can only be dropped in Mandarin matrix sluicing.

**4. The underlying structure of sluicing with copula.** §4 now turns back to Question 1: how are Mandarin SLCs derived such that a copula can precede the *wh*-phrase? I follow much of the existing literature and propose below that sluicing with copula in Mandarin SLCs is underlyingly copular, hence the presence of the copula (Adams 2004; Wei 2004; Adams & Tomioka 2012; Gong 2019). The sentence in (8a), for example, is thus underlyingly (8b).

- (8) a. Zhangsan xihuan yi ge ren. Dan wo bu zhidao shi shei.  
 Zhangsan like one CLF person but I NEG know COP who  
 ‘Zhangsan likes someone. But I don’t know who.’
- b. Zhangsan xihuan yi ge ren. Dan wo bu zhidao [∅ shi shei].  
 Zhangsan like one CLF person<sub>i</sub> but I NEG know *pro*<sub>i</sub> COP who  
 ‘Zhangsan likes someone<sub>i</sub>. But I don’t know [who *pro*<sub>i</sub> is].’

(8b) parallels the cross-sentential anaphora construction in (9), where the 3<sup>rd</sup> person pronoun *ta* takes an indefinite antecedent from the previous sentence. I assume that *pro* is interpreted analogously in (8b) (Adams 2004; Adams & Tomioka 2012).

- (9) Zhangsan xihuan yi ge ren. Dan wo bu zhidao [ta shi shei].  
 Zhangsan like one CLF person but I NEG know 3sg COP who  
 ‘Zhangsan likes someone. But I don’t know [who s/he is].’

The rest of §4 presents 3 novel arguments in support of this proposal. §4.1 makes a general argument against alternative movement-plus-deletion approaches. §4.2 argues based on the word order of *dou* ‘all’ and the copula *shi* that sluicing with copula is underlyingly copular. Lastly, §4.3 rejects the argument that idiomatic reconstruction effects in Mandarin SLCs favor a movement-plus-deletion approach.

4.1. AGAINST MOVEMENT-PLUS-DELETION. Roughly speaking, in a movement-plus-deletion approach to sluicing with copula, the *wh*-phrase is first moved to the left periphery, then the remaining clausal structure is deleted or left unpronounced. This section argues against movement-plus-deletion approaches in general, by first arguing against movement (§4.1.1) then against deletion (§4.1.2).

4.1.1. AGAINST MOVEMENT. Mandarin, a *wh*-in-situ language, has two *wh*-ex-situ strategies: topicalization and focus-fronting (Cheung 2008; Pan 2014).<sup>8</sup> However, both topicalization and focus-fronting obey constraints that sluicing with copula does not.

First, objects of action verbs encoding episodic eventualities (e.g. *buy*, *find*, *hit*) cannot focus-front (Pan 2014; Paul 2015). Compare (10a) and (10b), for example. (10a) encodes non-episodic

<sup>7</sup> One may expect such a general preference to also be reflected in the ratings for sluicing with copula. However, Figure 2 (left) shows that this is apparently not borne out — sluicing with simple and complex *wh*-phrases are both rated high. I hypothesize that this results from a ceiling effect: the tendency to rate sluicing with copula high is already so great, that complex *wh*-phrases no longer have a noticeable effect.

<sup>8</sup> A fronted *wh*-phrase in Mandarin may optionally be preceded by the copula *shi*. Here I follow Pan (2014) and others and identify those preceded by *shi* with focus-fronting, and those not preceded by *shi* with topicalization.

eventuality via the experiencer verb *xihuan* ‘like’ and focus-fronting the object *wh*-phrase is grammatical. (10b) encodes episodic eventuality via the action verb *da* ‘hit’ and focus-fronting becomes ill-formed.

- (10) a. Shi na ge tongxue Zhangsan bu **xihuan**?  
 FOC which CLF classmate Zhangsan NEG like  
 ‘Which classmate is it that Zhangsan doesn’t like?’
- b. \*Shi na ge tongxue Zhangsan **da** le?  
 FOC which CLF classmate Zhangsan hit ASP  
 ‘Intended: which classmate is it that Zhangsan hit?’

The same constraint is not found in sluicing with copula: both (11a) and (11b) are grammatical.

- (11) a. Zhangsan **xihuan** yi ge tongxue. Ni zhidao shi na ge tongxue ma?  
 Zhangsan like one CLF classmate 2sg know SHI which CLF classmate SFP<sub>2</sub>  
 ‘Zhangsan likes a classmate. Do you know which classmate?’
- b. Zhangsan **da** le yi ge tongxue. Ni zhidao shi na ge tongxue ma?  
 Zhangsan hit ASP one CLF classmate 2sg know SHI which CLF classmate SFP<sub>2</sub>  
 ‘Zhangsan hit a classmate. Do you know which classmate?’

Second, non-D-linked *wh*-phrases cannot topicalize (Yuan & Dugarova 2012; Pan 2014; Paul 2015). Topicalizing *shenme cai* ‘what dish’ and *na dao cai* ‘which dish’ in (12a), for example, are grammatical, but topicalizing *shenme* ‘what’ in (12b) is not.<sup>9</sup>

- (12) a. **Shenme cai** / **na dao cai**, Zhangsan chi le?  
 what dish which CLF dish Zhangsan eat ASP  
 ‘What/which dish, Zhangsan ate?’ — Complex/D-linked *wh*-phrase
- b. \***Shenme**, Zhangsan chi le?  
 what Zhangsan eat ASP  
 ‘Intended: what, Zhangsan ate?’ — Non-D-linked *wh*-phrase

This constraint is also not present in sluicing with copula: (13) is grammatical regardless of the type of the *wh*-phrase and the presence of a D-linking-inducing context.

- (13) Zhangsan bought a book...  
 Ni zhidao shi **shenme shu** / **na ben shu** / **shenme** ma?  
 2sg know SHI what book which CLF book what SFP<sub>2</sub>  
 ‘Do you know what book/which book/what?’

Since both *wh*-ex-situ strategies in Mandarin are constrained in ways that sluicing with copula is not, any movement-based approach to sluicing with copula must posit exceptional movements that are otherwise illicit. I take exceptional movements to be *a priori* undesirable if other options, e.g. pseudo-sluicing, are available.

<sup>9</sup> Unless it is given a D-linked interpretation by the context (Yuan & Dugarova 2012).

4.1.2. AGAINST DELETION. Evidence against deletion comes from the sentence-final particle *laizhe*. *Laizhe* may follow the *wh*-phrase in sluicing with copula; (14) is one such example:<sup>10</sup>

- (14) Zhangsan pengjian le yi ge pengyou. Wo bu jide shi shei **laizhe** le.  
 Zhangsan bump.into ASP one CLF friend I NEG remember SHI who SFP<sub>1</sub> SFP<sub>1</sub>  
 ‘Zhangsan bumped into a friend. I don’t/no longer remember who.’

Sentence-final particles (SFPs) in Mandarin are traditionally grouped into 3 classes based on their structural heights (e.g., Chao 1968; Paul 2015). *Laizhe* belongs to the class of low sentence-final particles SFP<sub>1</sub> in this taxonomy. Erlewine (2017) argues that SFP<sub>1</sub> are phase heads in the extended projection of VP based on several diagnostics. I repeat one below.

Erlewine (2017) probes the position of low SFPs based on their scopal interactions with low and high negations. In Mandarin, the negations *bu* and *bushi* are known to have different structural heights. Here I follow Huang (1988) and treat *bushi* as a high negation located outside the extended projection of VP, and *bu* as a low negation located within the extended projection of VP.

If *laizhe* is a head in the CP periphery (cf. Paul 2015, among others), then it outscopes both *bu* and *bushi* and should thus interact with them in the same way. If *laizhe* is a phase head in the extended projection of VP, then it outscopes *bu* but not *bushi*; it may thus interact with them differently.

(15a) and (15b) show that the latter is the case: *laizhe* is compatible with and outscopes the low negation *bu*, but is entirely incompatible with the high negation *bushi*.<sup>11</sup>

- (15) a. Ta bu xihuan chi qingcai laizhe.  
 3sg NEG<sub>low</sub> like eat vegetable SFP<sub>1</sub>  
 ‘It was recently the case that s/he didn’t like eating vegetables.’  
 b. \*Ta bushi xihuan chi qingcai laizhe.  
 3sg NEG<sub>high</sub> like eat vegetable SFP<sub>1</sub>  
 ‘It was recently the case that s/he didn’t like eating vegetables.’

Under a movement-plus-deletion approach to sluicing with copula, the *wh*-phrase moves to some TP-external position and the evacuated TP is deleted. No TP-internal element is thus predicted to survive deletion. Since *laizhe* is a TP-internal head, its occurrence in sluicing with copula is a counterexample to deletion-based approaches.

4.2. THE WORD ORDER OF *dou* AND *shi* IN THE SLUICE. The word order of the particle *dou* and the copula *shi* in the sluice shows that sluicing with copula must be underlyingly copular. The Mandarin quantifier-distributor particle *dou*, roughly English post-nominal *all*, may precede the copula *shi* in Mandarin SLCs if the copula is present. (16) gives one example.

<sup>10</sup> Two sentence-final particles, *laizhe* and *le*, are present in (14). Both *laizhe* and *le* belong to the same class of sentence-final particles. Since sentence-final particles from the same class do not co-occur in the same clause (Chao 1968, Zhu 1982, Paul 2015), *laizhe* must thus belong to the embedded clause and *le* the matrix clause.

<sup>11</sup> Paul (2015) also shows that *laizhe* is incompatible with another high negation *meiyou*.

- (16) Zhangsan mai le yi dui shu. Dan wo bu zhidao **dou shi** shenme shu.  
 Zhangsan buy ASP one CL.PLU book but I NEG know DOU SHI what book  
 ‘Zhangsan bought a bunch of books. But I don’t know what books (they all are).’

Crucially, *dou* may only precede but not follow *shi*:

- (17) \*Zhangsan mai le yi dui shu. Dan wo bu zhidao **shi dou** shenme shu.  
 Zhangsan buy ASP one CL.PLU book but I NEG know SHI DOU what book

This pattern is only found in copular constructions and not verbal constructions.<sup>12</sup> In a pseudo-cleft like (18), for example, *dou* may precede *shi* but not vice versa. In a verbal construction like (19), it’s the reverse pattern.<sup>13</sup> Since the word order pattern in sluicing with copula matches only the pattern in copular constructions, sluicing with copula must also be copular.

- (18) a. Zhangsan mai de **dou shi** shenme shu?  
 Zhangsan buy DE DOU SHI what book  
 ‘What books are books that Zhangsan bought?’  
 b. \*Zhangsan mai de **shi dou** shenme shu?  
 Zhangsan buy DE SHI DOU what book

- (19) a. ??Zhangsan **dou shi** mai le shenme shu?  
 Zhangsan DOU SHI buy ASP what book  
 b. Zhangsan **shi dou** mai le shenme shu?  
 Zhangsan SHI DOU buy ASP what book  
 ‘What are all the books such that it is those books that Zhangsan bought?’

4.3. IDIOMATIC RECONSTRUCTION IN MANDARIN SLCs. Song & Yoshida (2017) argue in favor of a movement-plus-deletion approach to Mandarin SLCs with evidence from idiomatic reconstruction effects. The verb-object idiom chunk *chi shei de cu* ‘eat whose vinegar’ in (20a) has the idiomatic interpretation ‘be jealous of whom’. This interpretation remains when the object *wh*-phrase topicalizes or focus-fronts as in (20b).

- (20) a. Lisi changchang chi shei de cu.  
 Lisi often eat who GEN vinegar  
 ‘Lisi is often jealous of whom?’  
 b. [(Shi) shei de cu]<sub>1</sub> Lisi changchang chi t<sub>1</sub>?  
 FOC who GEN vinegar Lisi often eat  
 ‘Who (is it that) Lisi is often jealous of?’

Cheung (2008)

<sup>12</sup> Judgements reported in (18) and (19) are based on informal judgements from two native speakers and judgements gathered from two filler items in Experiment 1 and 2.

<sup>13</sup> I assume that in verbal constructions *shi* functions as a focus marker that gives the sentence a cleft interpretation (e.g., Cheung 2008).

Song & Yoshida (2017) cite the same effect in Mandarin SLCs: the *wh*-phrase *shei de cu* ‘whose vinegar’ in (21b) retains its idiomatic interpretation. Song & Yoshida (2017) take this as evidence that the *wh*-phrase reconstructed into silent material. By comparison, clearly copular constructions like (21c) with an overt copular subject lose the idiomatic interpretation.

- (21) a. Lisi changchang chi mouren de cu.  
Lisi often eat someone GEN vinegar  
‘Lisi is often jealous of someone.’
- b. Dui, dan wo bu zhidao shi shei de cu.  
correct but I NEG know SHI who GEN vinegar  
‘Right. But I don’t know who.’
- c. \*Dui, dan wo bu zhidao na shi shei de cu.  
correct but I NEG know that SHI who GEN vinegar  
Intended: ‘Right. But I don’t know who that is.’ Song & Yoshida (2017)

My own survey of 94 native speakers confirmed Song & Yoshida (2017)’s judgements: speakers rated (21b) significantly above syntactically ill-formed controls.<sup>14</sup> However, speakers in the same survey also accepted (22a) and (22b) with idiomatic interpretations.

- (22) a. Zhao chi de shi Li de cu, bu shi Liu de cu.  
Zhao eat DE COP Li DE vinegar pro NEG COP Liu DE vinegar  
Lit. ‘What Zhao eats is Li’s vinegar, (what Zhao eats) is not Liu’s vinegar.’
- b. Zhao chi de shi Li de cu, ta chi de bu shi Liu de cu.  
Zhao eat DE COP Li DE vinegar 3sg eat DE NEG COP Liu DE vinegar  
Lit. ‘What Zhao eats is Li’s vinegar, what she eats is not Liu’s vinegar.’

Both (22a) and (22b) are copular: (22a) is a copular sentence with a null *pro* subject and (22b) is a pseudo-cleft. Since they both retain idiomatic interpretations, (22a) and (22b) reject Song & Yoshida (2017)’s premise that idiomatic reconstruction effects are indicative of movement.

4.4. INTERIM SUMMARY. This section proposed that sluicing with copula in Mandarin is underlyingly copular and presented 3 novel arguments in support. First, I dismissed movement-plus-deletion approaches to sluicing with copula on grounds that exceptional movements are undesirable when pseudo-sluicing is a viable option. Second, I showed that sluicing with copula exhibits word orders only found in copular constructions. Finally, I objected to Song & Yoshida (2017)’s argument that idiomatic reconstruction effects in sluicing with copula entail derivation by movement-plus-deletion. The picture that emerges is that sluicing with copula is best accounted for if it is underlying copular.

**5. The underlying structure of sluicing without copula.** Now only Question 3 remains: why can the copula be dropped and why only in matrix sluicing? In other words, how is sluicing without copula derived such that the copula may be dropped in matrix sluicing? While I do not make a positive proposal here, I argue below that sluicing without copula must not be copular.

<sup>14</sup> The survey was conducted through a filler item in Experiment 1 and 2. Participants were asked to rate a pair of sentences that are close variants of (21b) and (22b).

5.1. SLUICING WITHOUT COPULA IS NOT COPULAR. §4 concluded that sluicing with copula is underlyingly copular; then the null hypothesis is that sluicing without copula, i.e., matrix sluicing, is also copular. However, I argue below that this hypothesis would contradictorily predict the copula to be obligatory in sluicing without copula.

5.1.1. SLUICING WITHOUT COPULA IS NOT SPECIFICATIONAL. First, the copular structure underlying sluicing with copula is specificational rather than predicational. Here I use terms ‘specificational’ and ‘predicational’ in the sense of Mikkelsen (2005)’s taxonomy of copular sentences, where subjects of specificational copular sentences are predicative, property-denoting, while subjects of predicational copular sentences are referential, individual-denoting. Cheng (2021) shows that the subject of a specificational copular sentence in Mandarin can be replaced with *na* ‘that’ but not *ta* ‘s/he’. The same is true in sluicing with copula: in both (23a) and (23b), the (null) copular subjects can be replaced with *na* and not *ta*.

- (23) a. Zhangsan hit a classmate. . .  
 ... ni zhidao **na**/\***ta** shi na ge tongxue ma?  
 you know that/3sg SHI which CLF classmate SFP<sub>2</sub>  
 ‘Do you know which classmate that is?’
- b. A: Zhangsan hit a classmate.  
 B: **Na**/\***ta** shi na ge tongxue a?  
 that/3sg SHI which CLF classmate SFP<sub>3</sub>  
 ‘Which classmate is that?’

Since sluicing with copula is specificational, the null hypothesis is that if sluicing without copula is copular, then it is specificational, too. However, the copula is obligatory in Mandarin specificational copular sentences (Cheng 2021). Cheng (2021) identifies 3 environments in which the copula is omissible in Mandarin: multi-clausal pair-lists (see (24a); this results in a gapping-like construction), the so-called ‘nominal predicate constructions’ (see (24b); Chao 1968; Zhu 1982), and embedded small clauses (see (24c)).

- (24) a. Zhangsan shi shuxue laoshi, Lisi (shi) wuli laoshi, Wangwu (shi) huaxue  
 Zhangsan COP math teacher Lisi COP physics teacher Wangwu COP chemistry  
 laoshi.  
 teacher  
 ‘Zhangsan is a math teacher, Lisi a physics teacher, Wangwu a chemistry teacher.’
- b. Kongzi (shi) lu ren.  
 Confucius COP Lu people  
 ‘Confucius is from the Lu State.’
- c. Ni dang Zhangsan (shi) shazi ma?  
 2sg consider Zhangsan COP idiot SFP<sub>2</sub>  
 ‘(Rhetorically:) do you consider Zhangsan an idiot?’

Crucially, the copula is only omissible in these 3 environments if the sentence is predicational. (25) shows that the copula becomes obligatory when (24a-24c) become specificational. Thus if sluicing without copula is specificational, the copula must contradictorily be obligatory.

- (25) a. Shuxue laoshi shi Zhangsan, wuli laoshi \*(shi) Lisi, huaxue laoshi  
 math teacher COP Zhangsan physics teacher COP Lisi chemistry teacher  
 \*(shi) Wangwu.  
 COP Wangwu  
 ‘The math teacher is Zhangsan, the physics teacher Lisi, the chemistry teacher Wangwu.’
- b. Lu ren \*(shi) Kongzi.  
 Lu people COP Confucius  
 ‘The Lu state person is Confucius.’
- c. Ni dang shazi \*(shi) Zhangsan ma?  
 2sg consider idiot COP Zhangsan SFP<sub>2</sub>  
 ‘Do you consider the idiot to be Zhangsan?’

A specificational structure is also incompatible with a movement-plus-deletion approach: the post-copular *wh*-phrase cannot evacuate out of the copular structure<sup>15</sup> in order for deletion to target only the null subject and the copula as in (26), since the post-copular nominal in a Mandarin specificational sentence cannot move (Cheng 2021).<sup>16</sup> In conclusion, sluicing without copula must not be specificational if it is copular.

- (26) A: Zhangsan hit someone.  
 B: \*Shei<sub>1</sub> [ $\emptyset$  shi t<sub>T</sub>] a?  
 who<sub>1</sub> pro COP SFP<sub>3</sub>  
 ‘Who<sub>1</sub> that is t<sub>T</sub>?’

5.1.2. SLUICING WITHOUT COPULA IS NOT PREDICATIONAL. An alternative hypothesis is that sluicing without copula is predicational rather than specificational if it is copular. Sluicing without copula is thus underlyingly akin to (27).

- (27) A: Zhangsan hit someone.  
 B: Shei shi na ge ren a?  
 who SHI that CLF person SFP<sub>3</sub>  
 ‘Who is that person?’

Since pre-copular nominals in predicational sentences are free to move, this predicational structure lends itself to a movement-plus-deletion approach: the subject *wh*-phrase first moves to the left periphery; deletion then targets the evacuated copular structure. This is shown in (28).

<sup>15</sup> Here I use the term ‘copular structure’ to refer to the minimal projection that contains the copular subject.

<sup>16</sup> The post-copular nominal in a Mandarin specificational sentence cannot topicalize, for example, while the post-copular nominal in a predicational sentence can (Cheng 2021).

- (28) Shei<sub>1</sub> [t<sub>T</sub> shi na ge ren] a?  
 who SHI that CLF person SFP<sub>3</sub>  
 ‘Who<sub>1</sub> t<sub>T</sub> is that person?’

However, predicational structures are not restricted to matrix sentences. Thus if sluicing without copula is predicational, then it must be available in both matrix and embedded sluicing. In other words, the copula is predicted to be droppable in both matrix and embedded sluicing, contrary to findings from Experiment 1 and 2. Sluicing without copula must then also not be predicational.

5.2. INTERIM SUMMARY. This section argued that sluicing without copula in Mandarin is not underlyingly copular. The argument went like this. First, following Mikkelsen (2005), I assume a three-way taxonomy of copular sentences: specificational, predicational, and equative. This section argued that if sluicing without copula is underlyingly copular, then it can be neither specificational nor predicational. Furthermore, I also follow Cheng (2021) and assume that Mandarin has no true equative copular sentences with the copula *shi*.<sup>17</sup> Since sluicing without copula has no viable underlyingly copular source, I conclude that it must not be underlyingly copular.

**6. Conclusion.** The goal of this paper has been to answer Question 1-3 about Mandarin SLCs. (29) summarizes the proposed answers to each question.

- (29) a. Question 1: How are Mandarin SLCs derived s.t. a copula can precede the *wh*-phrase?  
 Answer: Sluicing with copula is underlyingly copular.
- b. Question 2: Exactly when can the copula be dropped?  
 Answer: The copula can only be dropped in matrix sluicing.
- c. Question 3: Why can the copula be dropped and why only in matrix sluicing?  
 Answer: Sluicing without copula is not underlyingly copular.

The contributions of this paper are potentially twofold. First, it clarifies the distribution of the copula in Mandarin SLCs. Since analyses of Mandarin SLCs have been centered around accounting for the distribution of the copula, a renewed understanding of this distribution inevitably affects existing analyses of Mandarin SLCs. Second, while many existing analyses of Mandarin SLCs have confined their scope to Mandarin embedded sluicing, this paper advocates researchers to pay more attention to Mandarin matrix sluicing as well. Based on new findings on the distribution of the copula from §2 and §3, I proposed a bifurcation of Mandarin SLCs into sluicing with copula and sluicing without copula: sluicing with copula are base-generated copular constructions, thus explaining the presence of the copula; however, sluicing without copula is derived differently and is confined to matrix sluicing. In order to fully understand why the copula can be absent in Mandarin sluicing, we must thus look to matrix sluicing.

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<sup>17</sup> Cheng (2021) argues that equative copular sentences in Mandarin require the adverb *jiu* before the copula *shi*.

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