A Cleft-approach to Mandarin Multiple Sluicing Boyan Yin & Klaus Abels, UCL

Introduction Multiple sluicing refers to reduced *wh*-questions containing two or more *wh*-phrases while retaining an interrogative interpretation. Abels and Dayal (2023) argue that genuine multiple sluicing is associated with pair-list readings. Building on this, Bai and Takahashi (2024) observe that Mandarin multiple sluicing with a pair-list reading cannot be derived from coordinated single *wh*-questions. To understand the derivation, this study first provides an experimental investigation into the form(s) of *wh*-remnants with respect to the position and optionality of the copula *shi* under pair-list readings. Based on the findings, a cleft analysis is proposed for Mandarin multiple sluicing.

Analysis We propose that Mandarin multiple sluicing is derived via clausal ellipsis of a cleft containing two *wh*-phrases. The structure of Mandarin clefts resembles English *it*-clefts proposed by Reeve (2012): The subject is a *pro*; *shi* is the main verb. Evidence for this claim and against the alternative analysis of *shi* as a focus particle comes from *shi*'s ability to form A-no-A questions; the following element is the pivot; and the rest of the sentence is a relative clause modifying the pivot, which is not followed by *de* given its post-nominal position.

(1) *pro* shì [$_{DP}$ Zhāngsān [$_{CP}$ chàng-le *Liǎng-zhī Lǎohǔ*]].
COP Zhangsan sing-PFV two-CL tiger
'It is Zhangsan who sang *Two Tigers*.'

When forming a multiple *wh*-question, one *wh*-phrase is the pivot and the other is either in the cleft clause, (2-a), or in the left-periphery, (2-b), resulting in positional variation of *shi*.

(2) měi-gè rén fēnbié chàng-le yì-shǒu gē, dàn wǒ wàngjì ...
every-CL rén respectively sing-PFV one-CL song but 1SG forget
'Each one sang a song, but I forget ...'

a. [$_{IP}$ shì [$_{DP}$ [nǎ-gè rén]$_i$ [$_{CP}$ (*tā$_i$) chàng-le nǎ-shǒu gē]]]?
COP which-CL person 3SG sing-PFV which-CL song
'Which person is it that sang which song?'

b. nǎ-gè rén$_i$ [$_{IP}$ shì [$_{DP}$ [nǎ-shǒu gē]$_j$ [$_{CP}$ (tā$_i$) chàng-le (*tā$_j$)]]]?
which-CL person COP which-CL song 3SG sing-PFV 3SG
'(As for) which person, which song is it that (s)he sang?'

The derivation is as follows. The *shi–wh–wh* variant is derived from clefts like (2-a) via clausal ellipsis at C′, with the second *wh*-phrase undergoing covert *wh*-movement to escape the ellipsis site, following Abels and Dayal (2023), illustrated in (3-a). While the *wh–shi–wh* variant is derived from clefts like (2-b) via clausal ellipsis targeting the cleft clause, as shown in (3-b), it is less complex and is preferred statistically.

(3) a. [$_{CP}$ *pro* COP *wh*$_i$ [$_{CP}$ OP$_i$ *wh*$_j$ [$_{IP}$ ... t$_i$...t$_j$]]]
b. [$_{CP}$ *wh*$_i$ [$_{IP}$ *pro* COP *wh*$_j$ [$_{CP}$ OP$_j$ [$_{IP}$ ... (RP$_i$)... t$_j$...]]]]

Evidence The cleft approach is supported by an extensive parallelism between multiple sluicing and multiple *wh*-clefts. For example, both constructions can have an **idiomatic reading**, which also rules out any non-elliptical analyses.

(4) měi rén fēnbié **chī** yí-gè rén-de **cù**, dàn wǒ bù zhīdào ...
every person respectively **eat** one-CL person-LNK **vinegar**, but 1SG NEG know
Idiom.: 'Everyone **is jealous of** someone (different), but I don't know ...'

a. {shì nǎ-gè rén shéi-de cù. | nǎ-gè rén shì shéi-de cù.}
COP which-CL person who-LNK vinegar which-CL person COP who-LNK vinegar
Idiomatic: 'which person is jealous of whom.'

b. {shì nǎ-gè rén chī shéi-de cù | [nǎ-gè rén]$_i$ shì shéi-de cù
COP which-CL person eat who-LNK vinegar | which-CL person COP who-LNK vinegar
(tā$_i$) chī.} 'which person it is that is jealous of whom | (as for) which
3SG eat person, of whom it is that (s)he is jealous.'

Both constructions are subject to the **clausemate condition** but not sensitive to islands. Although *wh-shi-wh* involves no covert movement (which is sensitive to clause boundary, Abels and Dayal 2023) and the presluice is expected to be nonsensitive to the condition, the parallelism holds nevertheless. Both constructions are subject to **Superiority Condition**, suggesting that the derivation involves movement. Data will be presented.

The proposed analysis further predicts that **only two variants of multiple sluicing** are possible. In contrast, previous accounts derive four variants by extending the generalization from single sluicing—namely, that *shi* is optional before each complex *wh*-phrase—to the case of multiple sluicing. This extension yields four logically possible variants, as illustrated in (5) (see, e.g., Adams 2004; Adams and Tomioka 2012; Chiu 2007; Zhao and Yuan 2025).

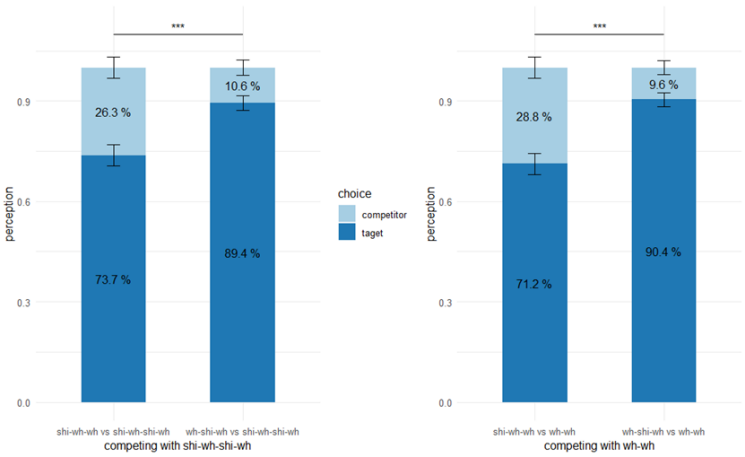
(5) <shì> complex *wh*-argument <shì> complex *wh*-argument

To test the prediction, we conducted a forced-choice judgment experiment. The experiment included 24 sets of test items, each preceded by a context that strongly favors a pair-list reading between a universally quantified correlate and an indefinite one, which was made explicit by the presence of the adverb *fēnbié* 'respectively', as illustrated in (6). Each test item had four versions of response options.

	Target	Competitor
a	shi wh wh	shi wh shi wh
b	wh shi wh	shi wh shi wh
c	shi wh wh	wh wh
d	wh shi wh	wh wh

(6) zài cāntīng-lǐ, měi-gé rén fēnbié diǎn-le yí-gè cài. wǒ zhǐshì
at restaurant-in every-CL person respectively order-PFV one-CL dish I just
bù zhīdào ___ {shì nǎ-gè rén nǎ-gè cài | nǎ-gè rén nǎ-gè cài}
NEG know COP which-CL person which-CL dish | which-CL person which-CL dish
'In the restaurant, each person ordered a dish respectively. I just don't know ____.'

Data from 33 participants were included in the statistical analysis, as summarized in the table and illustrated in the figure. The results showed that: (1) participants' selection of both target options was above chance, and (2) there was a significant main effect of target form, with the *wh–shi–wh* option consistently preferred. These findings suggest that Mandarin multiple sluicing exhibits two varieties of remnants as predicted: *shi–wh–wh* and *wh–shi–wh*.



version	Different from chance level performance?	Main effect of the target form
a	Yes: $\chi^2(1) = 44.626$, $p = 2.385\text{e-}11$ 95% CI = 0.28-0.44	Estimate = 0.157, SE = 0.035, $t = 4.478$, $p = 1.03\text{e-}05$***
b	Yes: $\chi^2(1) = 122.91$, $p < 2.2\text{e-}16$ 95% CI = 0.07-0.18	
c	Yes: $\chi^2(1) = 35.636$, $p = 2.378\text{e-}09$ 95% CI = 0.32-0.49	Estimate = 0.192, SE = 0.036, $t = 5.388$, $p = 1.32\text{e-}07$***
d	Yes: $\chi^2(1) = 129.29$, $p < 2.2\text{e-}16$ 95% CI = 0.07-0.16	

Given the correct predictions and the absence of any other multiple *wh*-questions that exhibit such behaviors, the cleft approach constitutes the null hypothesis until proven wrong.

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