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ON THE SYNTAX OF MANDARIN SLUICING: A CLEFT APPROACH
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A CLEFT APPROACH

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Thesis submitted in partial fulfilment
of the requirement of the degree of
MPhil in Linguistics

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November 2023
For my parents
DECLARATION

I, Boyan Yin, confirm that the work presented in this thesis is my own. Where information has been derived from other sources, I confirm that this has been indicated in the thesis.

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ABSTRACT

This dissertation investigates the derivation of sluicing in Mandarin Chinese. Sluicing refers to clausal ellipsis in wh-questions that only leaves a wh-phrase. Despite significant attention since Ross (1969), consensus remains elusive, particularly in wh-in-situ languages like Mandarin, where wh-movement is unavailable and it is unclear how to strand wh-phrases.

This dissertation provides a novel cleft analysis of Mandarin sluicing that captures the well-known properties and empirical data concerning the distribution of the element shi in multiple sluicing. There are two possible remnants: shi-wh-wh and wh-shi-wh. To explain this word order variation, parallels are drawn between sluicing and wh-clefts, indicating that Mandarin sluicing derives from wh-clefts. In single sluicing, the shi-remnant is the pivot and clausal ellipsis applies. In multiple sluicing, for shi-wh-wh remnant, the first wh-phrase is the pivot, while the other is from the cleft clause and undergoes covert wh-movement to escape the ellipsis site. Specifically, this movement fits the cross-linguistic constraints (Abels & Dayal 2023). For the wh-shi-wh remnant, the first wh-phrase is base-generated above IP and the second is the pivot. Both cases involve CP ellipsis. This approach successfully predicts other elements that can be stranded after elision and their landing sites, addressing previous shortcomings.

In addition to sluicing construction, this dissertation offers insight into Mandarin clefts and teases them apart from other constructions. It argues that Mandarin clefts resemble English it-clefts (Reeve 2012), with shi as a plain copula and the cleft clause as a relative clause lacking a linker.

Collectively, this cleft approach suggests a derivation of sluicing with elision, which saves the cleft source of multiple sluicing in languages that do not allow multiple pivots by adopting covert wh-movement. More generally, it enriches our understanding of sluicing in wh-in-situ languages, aligning with typological predictions (Van Craenenbroeck & Lipták 2013) while showcasing sluicing derivation through complex wh-clefts with clausal ellipsis.
It is on-going work to understand the derivational mechanism of inaudible chunks in human language in the frame of generative grammar, which has been one of the important tasks in syntax. The phenomenon of sluicing, as first named in Ross (1969), is a case of ellipsis. The typical example of sluicing contains only a wh-phrase in the embedded clause while it still can be interpreted as an entire interrogative. Though the phenomenon has attracted lasting interest over the years, the nature of the derivational mechanism remains controversial, especially in wh-in-situ languages. By focusing on a typical wh-in-situ language, Mandarin Chinese, this dissertation responds to controversies from both theoretical and empirical aspects.

(1)   a. You called someone, but I don’t know who.
     b. You called someone, but I don’t know who you called.

     (Merchant & Simpson 2012:1)

Language-specifically, I propose a new cleft approach to capture the properties of Mandarin (multiple) sluicing. By re-examining and reporting the empirical data concerning contextual licensing, argument sprouting, sloppy reading and the distributional variations of the element shi, I find a parallelism between sluicing and wh-clefts, which suggests the existence of the underlying structure in the ellipsis site in Mandarin sluicing and that the pre-sluece should be a wh-cleft. Specifically, in single sluicing, the wh-remnant is the pivot of the cleft and clausal ellipsis applies. In multiple sluicing, the variations in remnants can receive a unified analysis. For shi-wh-wh remnant, the first wh-phrase is the pivot, while the other is from the cleft clause and undergoes overt movement to escape the ellipsis site. In particular, this movement fits the cross-linguistic constraints (i.e., clause-mate condition and superiority, Abels & Dayal 2023). As for the wh-shi-wh remnant, the first wh-phrase is base-generated above IP and the second is the pivot. In both cases, the derivation involves CP ellipsis. The new approach fares better than previous accounts in capturing the properties and gives the clause-mate condition for free. Furthermore, it makes correct predictions about what other elements can strand after the ellipsis and their landing site.

Cross-linguistically, this dissertation helps us to gain a better understanding of the derivation of sluicing in wh-in-situ languages. On one hand, it re-opens the possibility of a cleft pre-sluecing for both single and multiple sluicing for some wh-in-situ languages, even if a given language does not tolerate multiple pivots. The sluicing(-like) constructions can be an instance of clausal ellipsis and the derivation
does not need to rely on language-specific properties like pro-drop and optional copula in simplex copula construction. On the other hand, this cleft approach is on par with some cross-linguistic generalisations and typological predictions. For instance, it is in line with the assumption that covert wh-movement is subject to clause boundary. It also follows the expectation that wh-in-situ languages do not have the English-type of sluicing.

In general, this work contributes to our understanding of how unpronounced elements in language are interpreted, and how this takes place in relatively understudied cases such as Mandarin Chinese.
Admittedly, I have been struggling with the opening sentence of this acknowledgment for quite some time, even though my background as a literature student should have made it a seemingly straightforward task. Undeniably, I once thought that finishing an MPhil was a modest beginning, which didn’t deserve a lengthy acknowledgement in typical PhD theses. However, when I finished writing, it brought a sense of completeness and even a touch of success. As I take a moment to reflect, I realize that now is the perfect juncture to express my profound gratitude to those who have been my guiding lights and unwavering supports throughout these past couple of years.

I want to express my deepest gratitude to my supervisors, Ad Neeleman and Klaus Abels. A special thanks goes to Klaus, my official secondary supervisor, for his unwavering patience and meticulous attention to detail when reviewing both the linguistic data and the earlier versions of this thesis. Without his consistent questioning of the logical underpinnings of each idea I presented, this work would not have reached its current level of completeness. I truly valued the enlightening Socratic discussions we engaged in over the past year, which pushed me to scrutinize my ideas rigorously and encouraged critical self-reflection. Many thanks also to Ad, for his insights and detailed guidance in supervising my very first project in the MPhil phase, although it is not here and remained uncompleted to some extent, which still was great experience for me to do some research in my understudied mother language. Thanks to his endless encouragement and great support in pursuing simple ideas in research, I survived my sad days and stressful periods and eventually decided to continue my adventure in linguistics.

Thank you to Yasu Sudo, for engaging in extensive discussions on semantic-related aspects of my primary projects and for offering valuable guidance regarding potential future work. I am also very grateful to Hans van de Koot, who taught my first syntax class and supervised my MA thesis. His mentorship not only introduced me to the world of theoretical syntax but also ignited my curiosity about Mandarin syntax as a whole.

I would like to acknowledge organisers and the audience of PhD Day 2023 and the LingO2023, who offered me a chance to present earlier versions of the work and provided valuable feedback. I am very grateful to Keir Moulton, Tanja Temmerman and Anikó Lipták, for their thoughtful responses to my questions and invaluable suggestions for improving my ideas.
I am always appreciated to have supportive and helpful colleagues around in the PhD Room to work with, making the study - as well as the social events - a rewarding and pleasant experience. My sincere thanks go to Diane Stoianov, Hanbyul Song, Xinxin Yan, Shaokang Jin, Varvara Kuz, Elisa Mattiauda, Stefano Castiglione, Teru Konishi, Gump Manowang, Huacheng Cao, Jessica Goulston and Kayla Chen. Special thank-you goes to Youngjin Kim, Wenkai Tay, Liliana Nentcheva, Shenshen Wang and Anna Grabovac, for listening to my worries and problems, and importantly, giving me suggestions on both research and life, which has turned to be my treasure. And thank you so much Erying Qin and Yiling Huo, for bearing with all my crazy Mandarin examples and sharing judgments generously. For experiencing the MPhil programme for the very first time ever with me, a huge thank-you to Rebecca Ren and James Zheng.

The two-year work cannot be completed without the support from my friends and relatives outside of the linguistic world, I am immensely grateful to Shenjian Chen and his parents, Bei Ye, Wenxiang Yao, Tian Gu, Yanan Wang, Wei Pan, Xiang Li, Fei Jiang, Miaomiao Zhang, Yingxin Ma, Shuilin Ma and Funan Feng.

Lastly, I just do not know how to express my countless appreciation to my parents, Yinghong and Peirong, who make me feel beloved and supported all the time and let me explore the world in the way that I wish. Thank you for being my parents.
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ACRONYMS

<table>
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<tr>
<th>Abbreviation</th>
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<tbody>
<tr>
<td>1sg</td>
<td>First person singular</td>
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<td>3sg</td>
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<td>3sg</td>
<td>Third person singular</td>
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<td>Copula</td>
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<td>dem</td>
<td>Demonstrative</td>
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<td>exp</td>
<td>Experiential aspect particle</td>
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<td>lnk</td>
<td>Linker</td>
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<td>Past tense marker</td>
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<td>op</td>
<td>Operator</td>
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<td>red</td>
<td>Reduplication</td>
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<td>rf</td>
<td>Resumptive pronoun</td>
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The grammar of ellipsis is one of the most frequently discussed questions in understanding natural languages as meaning can be successfully recovered even in the absence of the form. Specifically, this dissertation is concerned with a type of elliptical sentence like (2), named sluicing by Ross (1969). The elliptical sentence in (2-a) is interpreted as *which car John bought*, although the whole embedded interrogative clause is absent phonologically except for the *wh*-phrase. Similarly, (2-b), referred to as ‘multiple sluicing’ since it contains more than one *wh*-phrases, can access the reading that *I couldn’t tell you who brought what to the potluck*.

(2)  a. John bought a car, but I don’t know which one.
    b. Everybody brought something (different) to the potluck, but I couldn’t tell you who what.

Through a close examination of sluicing in Mandarin Chinese, I will suggest that (a) the data strongly support the existence of a hidden structure in the ellipsis site, (b) a cleft sentence is the underlying structure for both single and multiple sluicing, even though this language does not allow multiple pivots in clefts, (c) in multiple sluicing, for the remnant *shi-wh-wh*, the second *wh*-phrase undergoes covert *wh*-movement, which is the same mechanism that derives multiple sluicing in single *wh*-movement languages (e.g., English, Abels & Dayal 2023).

Before moving forward, it is essential to clarify that I adopt the following terminology, taken from the literature (e.g., in Abels 2017): the ‘leftover’ *what* in the embedded clause is referred to as the *wh*-remnant. The first clause, which makes the elliptical question interpretable intuitively, is the antecedent. The indefinite noun phrase whose identity is being questioned by the *wh*-remnant in the antecedent - *something* in this case - is as the correlate. The gap that immediately follows the remnant is the ellipsis site. And according to some theories, the sluice is composed of a remnant and an ellipsis site.

[Joe read [something]] but god only knows [[what] ____]
(3) [correlate] [remnant] ellipsis site
[ antecedent ] [ sluice ]

Moreover, the term ‘pre-sluice’ is borrowed from Dayal & Schwarzschild (2010) for the fully-fledged underlying expression that gives rise to
the sluice. Sometimes, there can be more than one plausible pre-sluice for (3), as given in (4). Importantly, a qualified pre-sluice should be grammatical in the environment of its corresponding sluicing.

(4)  a. what he read
    b. what it is

One of the core tasks of revealing the nature of sluicing is to ascertain what, if any, material is elided in the ellipsis site and whether the recoverability is achieved via syntactic or semantic identity. These problems are still under active debate in *wh*-in-situ languages. In the relatively rich discussion on sluicing in single *wh*-movement languages like English, the theories on sluicing can be divided into two types in accordance to their responses to the question of whether there is hidden structure in the ellipsis site: accounts that assume that hidden structure is present in the syntax (see Ross 1969, Chung et al. 1995 and Fiengo & May 1994 for recoverability via syntactic identity, and Merchant 2001, Abels 2011, M. Barros 2014 for recoverability via semantic identity) propose a derivation of a PF-level clausal deletion of a canonical *wh*-question. On the contrary, accounts that deny a hidden syntactic representation assume that interpretation of the interrogative clause is merely realised via pragmatic inference (Ginzburg & Sag 2000, Culicover & Jackendoff 2005, a.o.). In *wh*-in-situ languages, strings resembling (2) raise derivational questions given that apparently *wh*-movement is not an available choice by default, and the same dispute upon the syntactic represented structure exists as well. Some of the analyses deny the existence of ellipsis and appeal to independently motivated semantic and pragmatic mechanisms for successful interpretation. Whereas some others assume hidden structure in the ellipsis site, proposing clausal ellipsis of a question involving discourse-driven movement of the *wh*-phrase or of a (pseudo)cleft and copula sentence (e.g., a reduced copula sentence for Uzbek in Gribanova & Manetta 2016 and for Turkish in Ince 2006, a (pseudo-)cleft for Japanese in Merchant 1998, Nakao & Yoshida 2005, a.o.).

When it comes to Mandarin sluicing, the question of whether it involves hidden structure is still under debate. Some authors adopt the Ross/Merchant derivation (i.e., acknowledge a hidden structure) and replace *wh*-movement with discourse-motivated movement, enabling the *wh*-phrase to escape the elliptical clause. For example, Wang & Wu (2006), Chiu (2007) and Murphy (2014) argue that the *wh*-phrase undergoes a focus-driven movement and the rest of the embedded question is elided. Contrastingly, Adams (2004), Adams & Tomioka (2012) and Wei (2004) deny the existence of any hidden structure and assume that the interpretation is possible via an empty pronominal subject *pro* preceding the copula, which is co-indexed with the indefinite correlate. The analysis in effect suggests that Mandarin lacks
single sluicing, and the sluicing-like constructions instantiate pseudosluicing in Merchant’s 1998 words. In addition, researchers also explore the possibility of a cleft input to Mandarin sluicing structures, inspired by the commonly assumed cleft analysis for Japanese sluicing (Shimoyama 1995, Merchant 1998, a.o.). However, they reject this account because the clefts they concerned with are the *shi...de* sentences (*‘shi...de’ proper in W. Paul & Whitman 2008’s term), which cannot have *shi* immediately preceding an object focus, but sluicing can have an *wh*-object remnant. Similarly, a pseudo-cleft account is excluded because of some fatally different behaviours of the two constructions, e.g., it is impossible to have such a sentence with an adjunct (Wang & Wu 2006), while a *wh*-adjunct is possible in sluicing.

This picture of multiple sluicing is further complicated since the presence of the additional remnant raises further questions. Theories that try to address this issue can be separated into two types, one assumes that the second *wh*-phrase undergoes some special movement under ellipsis. Lasnik (2014), for example, argues that English multiple sluicing is licensed in environments where the second *wh*-phrase moves to the right, i.e., a case of rightward extraposition, which is overt under ellipsis. Others reduce the movement of the second *wh*-phrase as a case of covert movement, aligned with other covert movement operations such as quantifier raising (Abels & Dayal 2023).

Multiple sluicing in *wh*-in-situ languages has received less attention and the discussion has not been conclusively resolved. Some explain the derivation with language-specific properties. For instance, the (pseudo)cleft account for Japanese multiple sluicing replies on its property of allowing multiple pivots. Following this same logic, Kim & Sells (2013) rejects the cleft account for Korean sluicing simply because Korean clefts do not allow more than one pivot (one may argue the same for Mandarin as well). Adams & Tomioka (2012)’s pro-form analysis reduces Mandarin multiple sluicing to the coordination of single sluicing, which in effect also relies on the language-specific property of having a null pro-subject (i.e., being a pro-drop language) and an optional copula in simplex copula sentences. Differently, Chiu (2007) relies on the argument-adjunct asymmetry of *wh*-phrases and on Information Structure, assuming that the *wh*-argument is able to move one step further after checking the [+Focus] feature and land in SpecCP, while a *wh*-adjunct can only adjoin to FP.

The findings and investigation reported in this dissertation reveal their significance in responding to the controversies of the derivation of sluicing in Mandarin. With a close examination of a cleft construction that is slightly different from the so-called clefts that have been examined in the Mandarin sluicing literature so far (see also ‘Sentence-initial bare *shi*’ clefts in W. Paul & Whitman 2008), this dissertation provides a novel account of Mandarin sluicing via a *wh*-cleft followed by clausal ellipsis. Cross-linguistically, the cleft approach
suggests that clefts should not be ruled out as pre-sluice candidates just because the language does not allow multiple pivots, as the second \textit{wh}-remnant may originate in the post-pivot part.

More generally, the investigation of Mandarin sluicing plays a special role in getting a better handle on the interaction between sluicing and \textit{wh}-syntax. Proceeding from the Ross/Merchant analysis, people who are aiming at a typological analysis of sluicing try to build up a correlation between \textit{wh}-syntax and the availability of sluicing in a given language. In a recent attempt, Van Craenenbroeck & Lipták (2013) propose the \textit{wh}/sluicing correlation, where [E]-feature represents the formal features that license sluicing:

\begin{equation}
\text{(5) The \textit{wh}/sluicing correlation}
\end{equation}

The syntactic features that the [E]-feature has to check in a language L are identical to the strong features a \textit{wh}-phrase has to check in a regular constituent question in L.

To put it differently, the [E]-feature in \textit{wh}-in-situ languages is inert because \textit{wh}-phrases in constituent questions do not move overtly in these languages. Consequently, genuine sluicing (I. Paul & Potsdam 2012, Gribanova & Manetta 2016 a.o.), which demonstrably arises from \textit{wh}-movement (or another \textit{Â}-movements to the left periphery) with clausal ellipsis, is not available in these languages at all. And there could be some constructions that superficially resemble sluicing in \textit{wh}-in-situ languages though (sometimes referred to as ‘sluicing-like constructions’, I. Paul & Potsdam 2012), the derivation is different. For example, the sluicing-like construction in Japanese is analysed as pseudo-sluicing, which is derived from a copula sentence via \textit{pro}-drop and auxiliary drop in embedded clauses (e.g., ‘I don’t know what it is’, Merchant 1998).

The current analysis for Mandarin, a typical \textit{wh}-in-situ language, supports the purported link in (5) between the \textit{wh}-syntax (i.e., whether a given language has \textit{wh}-movement) and the availability of (true) sluicing, though the derivation does involve clausal ellipsis, by showing that its single sluicing is achieved by clausal ellipsis of a \textit{wh}-cleft, where the \textit{wh}-phrase does not undergo \textit{wh}-movement (or \textit{Â}-movement to SpecFocP in left periphery, as assumed in Van Craenenbroeck & Lipták 2013 for Hungarian). On the other hand, (multiple) sluicing in Mandarin involves clausal ellipsis, differing from Japanese sluicing, where the derivation does not involve clausal ellipsis but relies on its special properties of \textit{pro}-drop and optional copula (see Gribanova & Manetta 2016 for a similar analysis for Uzbek sluicing).

To derive Mandarin multiple sluicing, the cleft account adopts the covert \textit{wh}-movement mechanism originally proposed in Abels & Dayal (2023) for single \textit{wh}-movement languages. This mechanism allows the extra \textit{wh}-phrase to be spelt out above the ellipsis site when the clausal ellipsis takes place. This assumption reinforces that the covert
wh-movement mechanism operates consistently in Mandarin and English, rescuing the additional wh-phrase in multiple sluicing. This mechanism appears to be universally applicable, regardless of the wh-system in a given language.

The remainder of the dissertation is primarily organized according to the argumentation for a cleft analysis. In Chapter 2, I provide an overview of previous analyses of Mandarin sluicing and re-examine its properties, showing that it shares similarities with sluicing in other languages. The observations of the clause-mate condition and the alternative remnant structure in multiple sluicing strongly suggest that previous accounts hardly succeed and call for a better analysis. Chapter 3 offers a close examination of Mandarin cleft construction, which has a bi-clausal structure similar to English it-cLEFTs. Crucially, the wh-counterpart allows two wh-phrases – though not both as pivots – and also shows the alternative word order between the copula and wh-phrases, indicating that this type of wh-cLEFTs could be the qualified underlying input to Mandarin sluicing structure. Chapter 4 supports the assumption by building up parallelism between wh-cLEFTs and sluicing, based on their distributions, interpretations and so on. Chapter 5 then offers more details on the cleft account, proposing that Mandarin sluicing involves clausal ellipsis and a covert wh-movement mechanism. The latter gives the clause-mate condition for free, the former makes a correct prediction in deriving wh-stripping expressions. Finally, Chapter 6 concludes the dissertation with a discussion for future work. Topics include more clausal ellipsis constructions in Mandarin Chinese, as well as a cross-linguistics aspiration.
Mandarin SLUICING

2.1 OVERVIEW

Mandarin has a similar superficial structure as English sluicing, which is exemplified in (6). The verb zhidaow ‘know’ usually takes a DP or a CP complement, even though here there is only shi ‘be’ and the wh-phrase following it, the interpretation of the entire interrogative clause can be successfully recovered, for both wh-arguments as in (6-a) and wh-adjuncts as in (6-b).

(6) a. Zhangsan chang-le yi-shou ge, dan wo bu zhidaow
   Zhangsan sing-PERF one-CL song but 1SG NEG know
   *(shi) na-shou ge.
   COP which-CL song
   ‘Zhangsan sang a song, but I don’t know which song.’

b. Zhangsan du-wan-le zhe-ben shu, dan wo bu
   Zhangsan read-finish-PERF this-CL book but 1SG NEG
   zhidaow (shi) shenme-shihou.
   know COP what-time
   ‘Zhangsan finished reading this book, but I don’t know when.’

Mandarin also allows more than one wh-phrase to appear in this kind of expression. As in (7), shei ‘who’ and zai-nali ‘at-where’ can co-appear.

(7) mouren diao-le qian, dan wo bu zhidaow *(shi) shei
    someone lose-ASP money but I not know *(be) who
    zai-nali.
    at-where
    ‘Someone lost money, but I don’t know who why.’
    (Chiu 2007:24)²

Examples like (7) are referred to as multiple sluicing examples in the literature. However, as suggested by the optional coordinator and

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1 Following conventions from the literature, Mandarin sluicing examples throughout the dissertation are translated with standard English sluices. Although the copula shi cannot be freely dropped as in Japanese counterparts and is even obligatory in some cases, it is not explicitly translated into English to avoid biasing the current account.

2 The cited examples are adopted from the original sources directly if there is no additional notes about adaptation, including the Mandarin sentences, glosses and translations.
two *shi*, the expression is potentially confounded as the coordination of two single sluicing sluices.

(8)  
... [shi shei] (he/yiji) [shi) zai-nali].  
... COP who and COP at-where  
'... who (and) where.'

Since it is hard to tell whether examples like (7) are true instance of multiple sluicing or just a coordination of a pair of single sluices where the coordinator is absent, it would be more informative to use examples that force a pair-list reading like (9). Because this particular interpretation is not available for the coordination of single *wh*-questions unless the interlocutors are positively following the maxim of quantity in Grice’s Maxims and may provide paired answers. Thus, only examples like (9) (adopted from Bai & Takahashi 2023:8 with modification) will be considered as a truly convincing example of multiple sluicing, as either inserting a coordinator or having the second *shi* creates ungrammaticality, indicating that it cannot be derived by simply combining two single sluices.

(9)  
na san-ge ren mei-ren chang-le yi-shou ge, dan  
that three-CL person each-person sing-PERF one-CL song, but  
wo bu zhidao *(shi) na-ge ren (he/yiji) *(shi)  
I not know COP which-CL person and COP  
na-shou ge.  
which-CL song  
'Each of these three people sang a song, but I don’t know which person which song.'

Previous analyses of Mandarin sluicing can be classified into two groups, depending on whether they assume hidden structure in the ellipsis site. By denying the existence of a syntactic structure in the ellipsis site, Adams (2004), Adams & Tomioka (2012) and Wei (2004) consider Mandarin Chinese’s sluicing-like construction as a case of pseudo-sluicing and argue that the sluice is a simplex specification sentence containing a *pro* subject, which can be optionally replaced with a demonstrative pronoun. As demonstrated in (10), this analysis does not assume an elliptical structure and apparently involves no movement in the derivation. Crucially, under this *pro*-form analysis, Mandarin does not have the English-type sluicing though the configuration resembles true sluicing.

(10)  
Dawu gei mouren yishu hua, danshi wo bu zhidao *pro* shi shei.  
Dawu give someone-one-CL flower but iSG not know *pro* who  
' Dawu gave someone a bouquet, but I don’t know who (*pro* was).'

(Adams & Tomioka 2012:228)
Non-deletion analyses of Chinese sluicing-like constructions rely heavily on the semantics of the unpronounced subject to make the interrogative interpretation possible. Specifically, for an argument *wh*-remnant, the null subject is claimed to be an E-type pronoun (e.g., I. Heim 1990), which takes as its antecedent an indefinite NP that does not have the pronoun in its scope. As for an adjunct *wh*-remnant, on the other hand, Wei (2004) assumes that it is an event-taking pronoun, while Adams & Tomioka (2012) maintains a neutral stance between an event-taking and a proposition-taking analysis of the pronoun, and refers to the pronoun as sentential anaphora. The difference in the silent subject gives the argument-adjunct asymmetry in sprouting (i.e., sluicing cases where the remnants correspond to unrealised argument/adjunct in the antecedent) in Mandarin sluicing naturally: it is observed that Mandarin sluicing does not allow argument sprouting but requires an explicit correlate in the antecedent, whereas the adjunct does not have such a constraint and sprouting is possible. The former results from the constraint on using a pronoun according to I. R. Heim (1982), i.e., an implicit argument is too weak to license a pronoun in the subsequent discourse. As the latter involves a different type of pronoun, the constraint is not applicable any more, and any overt statement can serve as the denotation of such pronouns. Moreover, the pro-form analysis can explain the island-repair effect straightforwardly since there is no hidden structure that may potentially contain an island.

Furthermore, the analysis builds up a parallel between sluicing and the reducible simplex copula sentence based on the optionality of *shi* and the ungrammaticality of the sluice with *zenmeyang 'how'* in both constructions. The latter, in particular, is exemplified in (11), directly adopted from Wei (2004). As it shows, the badness cannot be saved by adding the copula, which is then taken as evidence for the impossibility of sluicing with ‘how’ in Mandarin.

(11) *Zhangsan kaowan *shi le, dan wo bu qingchu [pro (shi)]

Zhangsan take-finish test Asp but I not clear be *zenmeyang],

how

’??Zhangsan has finished the exam, but I am not clear how.’

(Wei 2004:222)

However, as will be examined later, there are grammatical ‘how’-sluicing examples, suggesting that the generalisation is not precise and needs to be revisited. And the reported sprouting facts call for more discussion too, since Adams (2004) uses improper verbs for testing sprouting that do not have the intended argument structure.

When it comes to sluices containing multiple *wh*-remnants, they all reduce the examples as conjoined pseudo-sluiced sentences. True multiple sluicing like (9) then poses a challenge to this analysis imme-
diately, as neither a coordinator nor a second copula is not possible in these sentences, which is contrastive to what the coordination of single sluicing predicts.

The second approach to Mandarin sluicing closely resembles a *wh*-move-and-delete approach to sluicing in English and many other *wh*-movement languages, which posits the movement of the *wh*-remnant for Information Structure reasons. Initially proposed in Wang (2002) and Wang & Wu (2006) for single sluicing, the analysis significantly differs from the pro-form analysis by positing a syntactic structure in the ellipsis site and movement of the *wh*-phrase, which is driven by the requirement to check the feature [+Foc], as demonstrated in (12) (directly adopted from Wang & Wu 2006). As assumed for English sluicing, this focus-movement approach assumes an IP ellipsis, which is represented by strike-through.

(12) a. Lisi yujian yige ren, keshi wo bu zhidao *(shi) shei*
    Lisi met a person but I not know be who
    ‘Lisi met someone, but I don’t know who.’

  b. ..., keshi wo bu zhidao [CP shi [FocP shei Foc [IP Lisi yujian t]]]

(Wang & Wu 2006:376)

The story is further developed by Chiu (2007) to explain examples containing more than one *wh*-phrase, where it is proposed that a *wh*-argument can move to SpecCP after the focus-driven movement to check the feature [+D-link], while *wh*-adjuncts cannot do so and adjoin to the FocP, resulting a fixed relative hierarchy between the two types of remnants, i.e. *wh*-arguments always sit higher than *wh*-adjuncts.

(13) Zhangsan da-le moren, dan wo bu zhidao *(shi) shei *
    Zhangsan hit-Asp someone but I not know be who
    why
    ‘Zhangsan hit someone, but I don’t know who why.’

(Chiu 2007:24)
This analysis raises an issue of multiple sluicing immediately: since it relies on the argument-adjunct asymmetry in explaining the order between the two \textit{wh}-phrases, it predicts that expressions containing two \textit{wh}-arguments as remnants would be ruled out. The prediction is not correct, as (10) is a grammatical example with both remnants being arguments. Furthermore, this analysis does not provide an explicit explanation as to the nature of \textit{shi} and why it can be optional, in some cases.

In the rest of this section, I will revisit the generalisations about Mandarin sluicing and provide new empirical data on multiple sluicing. I will then present my proposal of a cleft pre-sluice for Mandarin sluicing, agreeing with the previous accounts in analysing \textit{shi} as a copula and agreeing with the focus-movement analysis for the existence of a hidden structure in the ellipsis site.

2.2 Basic Facts

As pointed out by Adams (2004), Mandarin sluicing shares some common properties with its English counterparts. For example, it requires an explicit antecedent. As the contrast in (15) shows, (15-b) is infelicitous because of it lacks an explicit antecedent. The requirement of an explicit antecedent is not too surprising if the construction involves an ellipsis, from which the complete meaning needs to be recovered.

\begin{itemize}
  \item a. mouren jiezou le zhe-ben shu, danshi meiren
tell 1SG is who
  \item b. mouren jiezou le
tell 1SG is who
\end{itemize}
‘Somebody borrowed this book, but nobody told me who.’

b. #(Context: I was searching for a book of mine.)
   Meiren gaosu wo shi shei.
   nobody tell 1SG is who
   Intended: ‘Nobody told me who.’

   (Adams 2004:2)

Mandarin sluicing is licensed by a pragmatic constraint, the Answer Ban generalisation, as is English sluicing. The Answer Ban is proposed by Barker (2013:216) and discussed in M. V. Barros (2013), which poses a requirement on sluicing and answerhood, as stated in (16).

(16) Answer Ban
   The antecedent cannot be an answer to the sluiced question.

For English, sometimes exactly-modification of the remnant is required, as in (17). This is because without exactly, the correlate would be a satisfying answer to the sluiced question what Jack drives?, violating the Answer Ban.

(17) Jack drives a foreign car, but Fred doesn’t know what *(exactly).

   (M. V. Barros 2013:298)

Given this generalisation, it is expected that there are examples where the correlate is definite, as long as it cannot serve as an answer to the sluiced question. This is exactly what is found in Mandarin sluicing: given a definite correlate yingguo ‘Britain’ in the antecedent, (18-b) is felicitous by inserting the adverb juti ‘specifically’, and (18-c) is also compatible with the context by turning the definite correlate into a modifier of the wh-remnant. The contrast between (18-a) and (18-b) - (18-c) can be explained by the Answer Ban, as in ((18-a)), the correlate can be an answer to ‘where’, whereas in the latter two cases, the answerhood does not hold any more.

(18) Zhangsan yao qu yingguo.
    Zhangsan will go Britain
    ‘Zhangwan will go to Britain.’

   a. ... *dan wo bu zhidao (shi) nali.
      ... but 1SG NEG know COP where
      ‘... But I don’t know where.’

   b. ... dan wo bu zhidao * (juti) shi nali.
      ... but 1SG NEG know specifically COP where
      ‘... But I don’t know specifically.’

   c. ... dan wo bu zhidao (shi) * (yingguo(-de)) nali.
      ... but 1SG NEG know COP Britain-LNK where
‘But I don’t know where in the UK.’

Furthermore, as initially reported in Adams (2004) and agreed upon Y.-H. A. Li & Wei (2017), Mandarin sluicing obligatorily requires an argument correlate, whereas sluicing with a *wh*-adjunct does not. As shown in (19-a), argument sprouting is not acceptable, while adjunct sprouting, in contrast, is acceptable (19-b).

(19)  a. *wo gege zhengzai jiecia [e] - caicai kan shi shei!
          1SG brother prog receive   guess look  is who
   ‘My brother is receiving (usually customers) - guess who!’
   (Adams 2004:4)

       b. Liang cong-cong qu le riben, danshi wo bu zhidao
          Liang RED-hurry go Asp Japan but 1SG not know
          (shi) weishenme.
          is why
   ‘Liang went to Japan in a hurry, but I don’t know why.’
   (Adams 2004:3)

However, this generalisation is not precise. First, Adams uses improper examples that do not contribute to the argument. As (20) shows, the verb in the ungrammatical example (19-a) only has a transitive usage and does not allow object omission. Therefore, her example contains an ungrammatical antecedent to begin with and is irrelevantly wrong.

(20)  wo gege zhengzai jiedai *(keren).
          1SG elder.brother prog receive customer
   Intended: ‘My elder brother is welcoming the customers.’

Second, there are relevant examples with proper argument structure of the verbs in Y.-H. A. Li & Wei (2017), as in (21), where the verb allows a null object (given in (22)). The ungrammatical (21) is used as evidence for the lack of argument sprouting in Mandarin sluicing.

(21)  wo zhidao ta chi le; *dan wo bu zhidao shi shenme.
          I know he eat le but I not know be what
   ‘I know he ate, but I don’t know what.’
   (Y.-H. A. Li & Wei 2017:73)

(22)  ta chi-le.
          3SG eat-PERF
   ‘(S)he has eaten.’

Surprisingly, (23) is judged as grammatical, which adds an overt head in the *wh*-remnant compared to (21).
I sketch that the obligatory head is required to license the inaudible argument in the antecedent. To begin with, I assume that Mandarin verbs are ambitransitive as Kaufman (2006) assumes in Tagalog (c.f., Borise 2016), which means that the verb is intransitive unless the internal argument is introduced explicitly, and rely on the claim that argument sprouting is sensitive to the use of the verb (i.e., the argument structure of the verb) in the antecedent (Chung et al. 1995). Therefore, in the example (23), the verb chi ‘eat’ must have taken an object (in syntax) that is deleted later on (e.g., when can be recovered from the context) to indicate a transitive usage. As in (24-a), the head noun in the remnant does the job of suggesting that there is an empty category in the object position in the antecedent and making it interpretable. In contrast, (24-b) does not allow sprouting, as the verb is interpreted as intransitive, given that there is no cue for the existence of an omitted object of ‘eat’, and the intransitive verb ‘eat’ does not allow to take an object in the first place, which does not allow argument sprouting as an expected consequence.

(23) wo zhidao ta chi-le; dan wo bu zhidao shi shenme
1SG know 3SG eat-PERF but 1SG not know COP what
∗(dongxi).
stuff
‘I know he ate, but I don’t know what stuff.’

(24) a. ta chi e-le, dan wo bu zhidao shi shenme
3SG eat -PERF but 1SG NEG know COP what
∗(dongxi).
stuff
‘(S)he has eaten (something), but I don’t know what.’

b. *ta chi ∅-le, dan wo bu zhidao shi shenme
3SG eat -PERF, but 1SG NEG know COP what
(dongxi).
stuff
Intended : ‘(S)he has eaten (something), but I don’t know what.’

Put differently, it is a case of backward anaphora, and the empty category needs licensing, namely, the presence of the head noun in the remnant. Otherwise, the argument in the antecedent has to be explicitly uttered, as in (25). In addition, the mechanism of backward anaphora for a null pro is available in Mandarin, as reported in Lust et al. (1996), children and adults allow the co-reference reading in backward anaphora contexts over 90% of the time. Hence, Mandarin sluicing does allow argument sprouting, which needs an overt head in the remnant that corresponds to the omitted correlate.
One may argue that the case in (25) does not obey Williams’s (1997) General Pattern of Anaphoric Dependency (GPAD), which states that anaphoric dependency can only be forward or backward and down, where the backward antecedent must sit in the matrix clause and the preceding pronoun has to be in the embedded clause. Given that, (25) would not be allowed for backward binding of the pro. However, Mandarin (at least) does not subject to GPAD, as backward dependency is possible in the following example: as in (27), the two clauses are independent and coordinated by ‘but’. Without the first clause is not subordinated to the second one, whereas an anaphoric dependency is still possible. Therefore, (25) could be a case of backward anaphora, where the antecedent containing the noun head in the second clause involving sluicing licenses the pro in the first clause.

(27)  
\[
\text{ta}_3 \text{ mei gaosu ni } \text{danshi } \text{John}_1 \text{ queshi } \text{yao zou-le.} \\
\text{3SG NEG tell you but John indeed will leave} \\
\text{‘He did not tell you but John is indeed leaving.’} 
\]

It is believed in both the pro-form analysis and focus-movement analyses that Mandarin sluicing does not allow a wh-phrase ‘how’ that asks the manner or method of an action, which is exemplified in (28), judged as ungrammatical according to Adams.

(28)  
\[
\text{‘Aming zuowan le gongke, danshi ta mei gaosu wo } \\
\text{Aming finish Asp homework but 3SG not tell 1SG} \\
\text{ is how} \\
\text{ Intended: ‘Aming finished the homework, but he didn’t tell} \\
\text{me how.’} 
\]

(Adams 2004:3)

However, there do exist grammatical ‘how’-sluicing examples. According to my informants, there is a contrast in acceptability between differently structured antecedents that contain ‘how’: with a ba-construction in the antecedent, the sluice does (marginally) allow a method or manner reading of ‘how’ for some speakers.

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3 Thanks to Elena Titov for raising this to me.
As (29) shows, (29-a) is much more acceptable compared to (29-b), and the only difference lies in the structure of the antecedents.

(29)  

a. %Zhangsan ba che xiu-hao-le, dan wo bu zhidao Zhangsan BA car fix-good-PERF but 1SG NEG know shi zenmeyang. 
COP how 'Zhangsan fixed the car, but I don’t know how.'

b. ?*Zhangsan xiu-hao-le che, dan wo bu zhidao shi Zhangsan fix-good-PERF car but 1SG NEG know COP zenmeyang. 
how intended:‘Zhangsan fixed the car, but I don’t know how.’

The contrast here poses a potential challenge to the *pro*-form analysis since it predicts no differences in acceptability when the antecedent changes in form, and further suggests that a successful account should be able to explain such a contrast, which essentially cares about the form of the antecedent, indicating a hidden structure in the ellipsis site.

Moreover, as reported first in Wei (2004, 2009), Mandarin sluicing permits sloppy reading, as in English sluicing (given in (30), contra to Adams 2004). For example, in (31), the Mandarin sluicing structure can either be interpreted as Lisi knowing why Lisi, himself, was scolded or why Zhangsan was scolded.

(30)  

I know how to say I’m sorry, and Bill knows how, too.  

a. ‘I know how to say I’m sorry, and Bill knows how to say I’m sorry.’ (strict)  
b. ‘I know how to say I’m sorry, and Bill knows how to say he(=Bill) is sorry.’  

(Ross 1969:274, cited in Wei 2009:1)

(31)  

Zhangsan bu zhidao [ta1 weishenme bei ma], dan Lisi Zhangsan NEG know 3SG why PASS scold but Lisi bu zhidao (shi) weishenme. 
NEG know COP why 'Zhangsan didn’t know why he1 was scolded, but Lisi knows why he1/j was scolded.’ (strict/sloppy)  

(Wei 2009:4)

However, as pointed out by Merchant (2001:8), speakers find it is really difficult to access to a sloppy reading of typical sluicing examples

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4 The judgements upon the *how*-sluice displays variations to a great extent, I will leave some more detailed discussions in the future work.

5 I will return to this very contrast later in Chapter 4, (107).
in English, which is exemplified in (32), which should be compared to the VP ellipsis example as in (33), where sloppy reading is possible.

(32) Abby said she’d stop smoking tomorrow, but Beth wouldn’t say when.

(Merchant 2001:8, footnote)

(33) Abby told us when she’d stop smoking, but Beth didn’t.

(Merchant 2001:8, footnote)

The same judgement is found in Mandarin as well. In (34), it is also very hard to get the sloppy reading. Thus, the (un)availability should not be regarded as evidence for a non-ellipsis account for Mandarin sluicing, since in English, where sluicing is assumed to be derived via move-and-delete strategy shows the similar interpretational difficulties.

(34) Abby shuo-le ta mingtian jie yan, dan Beth mei shuo (shi) shenme-shihou.

‘Abby said she’d stop smoking tomorrow, but Beth wouldn’t say when.’

In summary, Mandarin sluicing behaves like English sluicing in many ways, including contextual licensing and its interpretation.

2.3 NEW OBSERVATIONS

This subsection introduces two observations about Mandarin multiple sluicing that have not received adequate discussion yet.

First, the well-noticed element shi ‘be’ has two available positions in multiple sluicing. The multiple sluicing examples above show that the remnant can be either shi-wh1-wh2 or wh1-shi-wh2, as exemplified in (35). Importantly, both forms of the remnants are compatible with a pair-list reading, which then should be considered as a proper multiple sluicing expression, meaning that any hypotheses that aim to explain Mandarin sluicing should be able to capture this variations.

(35) zhe san-ge ren chang-le san-shou ge, dan wo wangji ...

‘These three people sang three songs, but I forget ...’

a. shi na-ge ren na-shou ge

COP which-CL person which-CL song
‘which person which song.’

b. na-ge ren shi na-shou ge
   which-CL person COP which-CL song
   ‘which person which song.’

The alternative remnant structure with a medial-shi is found in sluices with wh-adjuncts as well. The possible combinations are listed in the following. In (36), the multiple remnants consist of one wh-argument and one wh-adjunct, where a wh-adjunct is excluded in the initial remnant position, as the ungrammatical (36-b) shows. (37) has both remnants as wh-adjuncts, and there is no grammatical issue when the remnants exchange positions.

(36) Zhangsan tou-guo ji-ci dongxi, dan wo bu
Zhangsan steal-EXP several-time stuff but 1SG NEG
zhidao ...
know
‘Zhangsan has stolen something several times, but I don’t know ...’

a. shenme-dongxi shi weishenme
   what-stuff COP why
   ‘what where.’

b. ?weishenme shi shenme-dongxi
   know why COP what-stuff
   Intended: ‘where what.’

(37) sui-zhe yun-de yidong, zhe ji-ge difang
   along-PROG cloud-LNK movement DEM several-CL place
   xia-le yu. dan wo wangji-le ...
   rain-PERF rain but 1SG forget-PERF
‘As the clouds moved, it rained in these places. but I forget ...’

a. shenme-difang shi shenme-shihou.
   what-place COP what-time
   ‘where when.’

b. shenme-shihou shi shenme-difang.
   what-place COP what-time

For the wh1-shi-wh2 remnant, I will keep its English translation the same as the other remnant’s in terms of content, but with an additional double underline marking the counterpart of the initial wh-remnant. As I will show later in Chapter 4 and 5, the initial wh-phrase in wh1-shi-wh2 is associated with a topic in the answers and bears discourse prominence (more or less like Kotek & Barros 2018 claim for the prior remnant in English multiple sluicing), this alternative remnant structure is relatively more marked compared to shi-wh1-wh2. Given that the standard English sluicing has been used for translating the less marked shi-wh1-wh remnant and English does not have a corresponding expression for a more marked version, the double underline is used to signal the markedness of the initial wh-phrase in wh1-shi-wh2.
Second, Mandarin multiple sluicing obeys the clause-mate condition as many other languages do (Abels & Dayal, 2023), which requires that all remnants of multiple sluicing originate from the same (finite) clause. In other words, when two remnants originate from separate clauses, sluicing should be forbidden. For example, (38-a) is a well-formed multiple wh-question that can access the intended pair-list reading. However, (38-b) is a bad instance of multiple sluicing because the clause-mate condition is violated, as the remnant welcher (Philosoph) ‘which philosopher’ originates from the matrix clause, whereas the second one welchen (Linguisten) ‘which linguist’ is from the embedded clause.

(38)  Jeder dieser Philosophen wird sich är dern, wenn wir einen bestimmten Linguisten einladen, aber ich weiss nicht, welcher sich är dern wird, wenn wir einen bestimmten Linguisten einladen. 

a. ... welcher Philosoph sich ärgern wird, wenn wir einen bestimmten Linguisten einladen. 

b. ... welcher (Philosoph) welchen (Linguisten). 

Intended: ‘... which (philosopher) which (linguist).’

(39)  zheli mei-ge xuesheng dou shengcheng mali yu here every-CL student DOU claim Mary with yi-wei jiaoshou jiaotan-guo, dan wo bu zhidao ... one-CL professor talk-EXP but 1SG NEG know ‘Every student here claimed that Mary has talked to a professor, but I don’t know’ 

a. *shi na-ge xuesheng (yu) na-ge jiaoshou. COP which-CL student with which-CL professor Intended: ‘which student with which professor.’ 

b. *na-ge xuesheng shi (yu) na-ge jiaoshou. which-CL student COP with which-CL professor Intended: ‘which student with which professor.’
When the \textit{wh}-remnants are from the same finite clause, multiple sluicing is acceptable. As exemplified in (40), the remnants are from a clause inside a complex NP island, which can have the intended pair-list reading. It suggests that island insensitivity is detected in Mandarin sluicing, which patterns in the same way as the cross-linguistic facts.

(40) \texttt{wo renshi yi-ge \text{[song-le} mei-ge haizi liwu-de]} \\
\texttt{1SG know one-CL give-PERF every-CL student gift-LNK} \\
\texttt{laoshi, dan wo bu jide ...} \\
\texttt{teacher but 1SG NEG remember} \\
‘I know a teacher who gave a gift to each child, but I cannot remember …’

a. \texttt{shi na-ge haizi na-ge liwu.} \\
\texttt{COP which-CL child which-CL gift} \\
‘which child which gift.’

b. \texttt{na-ge haizi shi na-ge liwu.} \\
\texttt{which-CL child COP which-CL gift} \\
‘which child which gift.’

2.4 \textbf{INTERIM SUMMARY}

This chapter started with a review of previous accounts of Mandarin sluicing and examined its basic properties, which demonstrates that Mandarin sluicing shares many similarities with its English counterpart. On one hand, the re-examination of the sluicing example with ‘how’, which strongly suggests a hidden structure in the ellipsis site, along with the observations of the variations of multiple sluicing remnants and clause-mate condition, serves as a good starting point in ascertaining the underlying structure. On the other hand, the listed facts cannot be well-captured by previous accounts easily. For example, the \textit{pro}-from analysis faces fatal problems in explaining how the antecedent structure affects grammaticality and in getting pair-list readings in multiple sluicing. And the focus-movement analysis gets into trouble in deriving multiple sluicing with two \textit{wh}-arguments. Next, I will first clarify the structure of Mandarin clefts and then build up a parallel between sluicing and \textit{wh}-clefts.
This chapter focuses on the semantics and syntax of Mandarin cleft sentences. The declarative and interrogative examples are exemplified in (41-a) and (41-b), respectively.

(41) a. shi Zhangsan mai-le yi-ben shu.
    COP Zhangsan buy-PERF one-CL book
    ‘It is Zhangsan who bought a book.’

   b. shi shei mai-le yi-ben shu?
    COP who buy-PERF one-CL book
    ‘Who is it that bought a book?’

I will argue that this configuration displays exhaustivity on the pivot and conveys strong existential presupposition, which are the typical semantic properties of clefts in many languages. Structurally, Mandarin clefts share similarities with English *it*-clefts and should be analysed as bi-clausal, since two independent positions for negation are available. The proposed structure can be descriptively represented in the scheme in (42), which consists of four main parts: a null subject, a copula, a pivot and a clause which contains a gap, which will be referred to as the cleft clause.

(42) empty subject - COP - focused XP (pivot) - clause minus focused XP.

### 3.1 Semantic Properties of a Cleft

#### 3.1.1 Exhaustivity Effect

The first interpretative effect that a cleft sentence may show is Exhaustivity (or Exclusiveness Effect, cf. Kiss 1998, Hedberg 2000). According to Kiss (1998) and Szabocsi (1981), coordinated DPs can be used to diagnose exhaustivity by checking the entailment relation between the original sentence that contains a coordination and the sentence that only reserves one of the conjuncts. If there is no entailment relation, the construction conveys exhaustivity; and if not, the construction does not encode exhaustivity. For example, (43-a) contains a DP coordination, and (43-b) drops one conjunct. The latter is not entailed by the former, as the situation that makes (43-a) true does not make (43-b) true, suggesting that this construction, i.e., English *it*-clefts, is an exhaustivity-encoding configuration, in which the clefted focus (the pivot) is interpreted exhaustively. In contrast, as shown in
(44), a plain declarative statement in English that has a DP coordination as its object entails the expression with only one of the conjunct, suggesting that it does not encode exhaustivity.

(43)  
a. It was a hat and a coat that Mary picked for herself.
b. ☐ It was a hat that Mary picked for herself.

(44)  
a. Mary picked a hat and a coat for herself.
b. ⇒ Mary picked a hat for herself.

Mandarin sentences like (41) also show exhaustivity in the same way. As shown in (45), the situation that makes (45-a) true is that Zhangsan bought and only bought a book and a pen, while for (45-b), the situation is that he bought and only bought a book. Since the truth condition for (45-a) does not make (45-b) true, the entailment from the former to the latter does not exist, suggesting that the construction in question is an exhaustive focusing device.

(45)  
a.  
\begin{align*}
\text{shi} & \text{ shu he gangbi Zhangsan mai-le.} \\
\text{COP book and pen} & \text{ Zhangsan buy-PERF} \\
\text{‘It is a book and a pen that Zhangsan bought.’}
\end{align*}

b. ☐  
\begin{align*}
\text{shi} & \text{ shu Zhangsan mai-le.} \\
\text{COP book Zhangsan buy-PERF} \\
\text{‘It is a book that Zhangsan bought.’}
\end{align*}

A question with the wh-phrase being exhaustive should not be felicitous with a context that has a strong bias for a list answer. For example, in requesting information about places for a drink, the English wh-cleft is rather odd. Instead, a plain wh-question should be used. This is because world knowledge suggests that numerous locations are available for a drink, and there is no reason to force an exhaustive answer as a partial answer is satisfying.

(46)  
a. #Where is it that I can get a drink?
b. Where can I get a drink?

Following the same logic, the exhaustivity effect can also be found in wh questions via question-answer congruence, namely, exhaustivity is not compatible with a partial answer, which can be marked by ‘for example.’ As shown in (47), to answer a wh-cleft question, a completed answer like (47-b) is required, whereas a partial answer as in (47-a) is infelicitous (the symbol # is used to suggest oddness of expressions in certain contexts). This requirement on the completeness of the answer is not obligatory in plain wh-questions, as (48) shows.

(47)  
What is it that Mary picked for herself?
\begin{tabular}{l}
| a. & # For example, she picked a hat. \\
| b. & A hat and a coat (and nothing else). |
\end{tabular}
What did Mary picked for herself?

a. For example, she picked a hat.
b. A hat and a coat (and nothing else).

Wh-questions like (41-b) exhibit exhaustivity in the same way. By recreating the questions in Mandarin, it is found that the (49-a) is awkward and (49-b) should be used.

(49) a. # shi zai-nali wo neng he jiu?
   COP at-where rSG can drink wine
   ‘Where is it that I can get a drink?’

b. wo neng zai-nali he jiu?
   rSG can at-where drink wine
   ‘Where can I get a drink?’

And for the question-answer pair, the answer with biru ‘for example’ is excluded for the same reason, as the contrast between (50-a) and (50-b) shows.

(50) shi shenme mali wei taziji xuan-le?
   COP what Mary for herself choose-PERF
   ‘What is it that Mary picked for herself?’

a. # biru, yi-ding maozi.
   for.example one-CL hat
   ‘For example, a hat.’

b. yi-ding maozi he yi-jian dayi (meiyou qita -le).
   one-CL hat and one-CL coat (no else -LE)
   ‘A hat and a coat (and nothing else).’

Therefore, in the construction in question, the position that linearly follows the shi immediately is interpreted exhaustively, and this position is associated with a focus interpretation, which shows parallel to cleft constructions.

3.1.2 Presupposition

Another semantic property a cleft which may typically show is that it conveys a strong existential presupposition. (51) is an example from Rooth (1999):ex24. (51-a) is self-contradictory because the it-cleft presupposes someone won the football pool, which is denied in the previous assertion. And without the itcleft construction, (51-b) is free of such a meaning clash.

(51) Q: Did anyone win the football pool this week?
a. #Probably not, because it’s unlikely that it’s Mary who won it, and she’s the only person who ever wins.

b. Probably not, because it’s unlikely that Mary won it, and she’s the only person who ever wins.

The same oddness can be detected in Mandarin clefts, as illustrated with example (52).

(52) Q: Did anyone win the football pool this week?

a. #keneng meiyou, yinwei bu tai keneng shi mali probably none because NEG very possible COP Mary ying-le, erqie ta shi weiyi ying-guo-de ren. win-PERF, and 3SG COP only win-EXP-LNK person ‘Probably not, because it’s unlikely that it’s Mary who won it, and she’s the only person who ever wins.’

b. keneng meiyou, yinwei mali bu tai keneng probably none because Mary NEG very possible ying, erqie ta shi weiyi ying-guo-de ren. win and 3SG COP only win-EXP-LNK person ‘Probably not, because it’s unlikely that Mary won it, and she’s the only person who ever wins.’

Moreover, it is harder to reject an existential presupposition in wh-clefts compared to a plain wh-question. Native speakers of English found a contrast between the dialogue in (53) and (54), showing that a negative answer is felicitous with a plain wh-question but not a wh-cleft. According to Eilam & Lai (2009), the contrast lies in the different associated propositions between wh-clefts and plain wh-(argument) questions, namely only the former conveys an existential presupposition, but not the latter (see also Romero & Han 2004, Tomioka 2009 a.o.). In other words, the wh-cleft in (53) conveys the presupposition ‘someone got drunk at the party,’ which should not be negated by a negative answer. On the contrary, there is no such presupposition with (54), which therefore allows a negation. Some hypotheses regard wh-phrases as existential generalised quantifiers (e.g., Karttunen & Peters 1977, Karttunen 1977), assuming that wh-questions come with existential presuppositions. For the frame, it is usually assumed that the existential presupposition conveyed by wh-clefts is somehow stronger than the one by plain wh-questions, as Brandtler (2019) argues for Swedish. In a word, wh-clefts behave differently to plain wh-questions, suggesting presupposition can be used as a diagnostic test for clefts.

(53) A: Who is it that failed the test?
   B: #’No one.
A: Who failed the test?  
B: No one.  

(\textit{Eilam & Lai 2009:9})

The same contrast can also be found in Mandarin \textit{wh}-clefts.

A: shi shei zai juhui-shang he-zui-le?  
\quad COP who at party-on drink-drunk-PERF  
\quad ‘Who is it that got drunk at the party?’  
B: # meiyou ren.  
\quad no person  
\quad ‘Nobody.’

A: shei zai juhui-shang he-zui-le?  
\quad who at party-on drink-drunk-PERF  
\quad ‘Who got drunk at the party?’  
B: meiyou ren.  
\quad no person  
\quad ‘Nobody.’

Therefore, the Mandarin expressions like (41) convey presupposition in the post-pivot part, just like what is detected in English cleft. This fact, together with the fact that the focused element displays an exhaustivity effect, demonstrates that the Mandarin construction in question shows semantic properties of cleft sentences, with the post-copula element being clefted.

3.2 SYNTACTIC PROPERTIES OF A CLEFT

After showing the essential semantic characteristics of being a cleft, I will show in this section that the construction in question also shares syntactic properties with English clefts.

Before getting into the details of the Mandarin clefts, I will first introduce the English \textit{it}-cleft structure. \textit{Reeve} (2012) proposes a specification sentences analysis for English \textit{it}-clefts, illustrated in (58): the cleft clause CP is attached to the cleft XP (the DP \textit{John} in the current case), taking it as its antecedent, though semantically it is a restrictive modifier of the non-expletive subject \textit{it}.

\begin{enumerate}
\item[(57)] It is John that Mary saw.
\end{enumerate}
Resembling the English structure, I assume that the Mandarin cleft construction concerned here has the structure in (60)\(^7\).

\(^7\) Here I assume that the subject in the Mandarin cleft is a null pro. One may question whether this pro can be optionally realised as a demonstrative pronoun na ‘that’ as claimed in Adams (2004) and Adams & Tomioka (2012), as mentioned in (10), Section 2.1. However, sentences with high sentential adverbs seem to suggest that the demonstrative pronoun may sit higher than the subject, probably in a topic position. As the contrast in ((i)) shows, it is preferred for the adverb xianran ‘apparently’ to precede the lian-focus.

\[(i)\]
\[\begin{align*}
\text{a. xianran} & \quad \text{lian} & \quad \text{meiguifhua} & \quad \text{Zhangsan} & \quad \text{dou} & \quad \text{bu} & \quad \text{xihuan.} \\
\text{Zhangsan} & \quad \text{apparently} & \quad \text{LIAN} & \quad \text{rose} & \quad \text{DOU} & \quad \text{NEG} & \quad \text{like} \\
& \quad \text{‘Zhangsan apparently even dislikes roses.’} \\
\text{b. ??lian} & \quad \text{meiguifhua} & \quad \text{xianran} & \quad \text{Zhangsan} & \quad \text{dou} & \quad \text{bu} & \quad \text{xihuan.} \\
\text{LIAN} & \quad \text{rose} & \quad \text{apparently} & \quad \text{Zhangsan} & \quad \text{DOU} & \quad \text{NEG} & \quad \text{like}
\end{align*}\]

In clefts, it is preferred for the adverb to sit under the demonstrative pronoun, which may indicate that the pronoun is not the subject.

\[(ii)\]
\[\begin{align*}
\text{a. na} & \quad \text{xianran} & \quad \text{shi} & \quad \text{Zhangsan} & \quad \text{mali} & \quad \text{kanjian-le.} \\
\text{DEM} & \quad \text{apparently} & \quad \text{COP} & \quad \text{Zhangsan} & \quad \text{Mary} & \quad \text{see-PERF} \\
& \quad \text{‘That apparently is Zhangsan who Mary saw.’} \\
\text{b. ??xianran} & \quad \text{na} & \quad \text{shi} & \quad \text{Zhangsan} & \quad \text{mali} & \quad \text{kanjian-le.} \\
\text{apparently} & \quad \text{DEM} & \quad \text{COP} & \quad \text{Zhangsan} & \quad \text{Mary} & \quad \text{see-PERF}
\end{align*}\]

Kier Moulton (p.c.) suggests that there might be a cross-linguistic tendency for demonstrative pronouns to exhibit divergence from the non-personal pronoun it when serving as propositional anaphora. This phenomenon could arise due to cognitive reasons and pragmatic inference mechanisms. Some studies propose that using a demonstrative pronoun is more intricate and leads to a heavier processing load. For instance, Wittenberg et al. (2021) conducted a recent experiment that shown this, while Hegarty et al. (2002) and related works provide earlier theoretical discussions on this topic.
The upcoming discussion will focus on the main components of this structure, making the following arguments: 1) Mandarin clefts are bi-clausal constructions; 2) *shi* is a copula; 3) the cleft clause is a relative clause attaching to the pivot.\(^8\)

3.2.1 Interaction with negation

This subsection will show that the Mandarin cleft sentences have two different positions for negation and are interpretively independent of each other, indicating that they are bi-clausal constructions.

First of all, *shi* can bear negation as in (61). The interpretation illustrates that the clause ‘Zhangsan bought’ can escape from the negation force associated with the negative particle *bu* on the copula. This evasion is considered evidence of encoding an existential presupposition: ‘Zhangsan bought something.’ Since (62-a) can be used as a continuation of (61), there is no potential semantic/pragmatic clash of the existential presupposition that Zhangsan bought something (though not that book). While it is infelicitous to continue with (62-b) because it raises a contradiction by saying Zhangsan bought nothing.

---

\(^8\) I acknowledge that there could be an alternative small clause account as proposed in Cheng (2008), which can be represented as follows:

(i) \[ \text{pro}_1 \text{ COP} \{ \text{sc} [ \text{CP} ] [t_{1.1}] \} \]

The main difference is that it assumes a movement of the null *pro*. Since whether the unpronounced *pro* moves does not challenge the core analysis in the current work, I will leave the problem open in this dissertation.
(61)  **bu**  shi na-ben shu  Zhangsan mai-le.  
    NEG COP DEM-CL book Zhangsan buy-PERF  
    ‘It is not that book that Zhangsan bought.’

(62)  a.  ... shi  zhe-ben shu  Zhangsan mai-le.  
    COP DEM-CL book Zhangsan buy-PERF  
    ‘... It is this book that Zhangsan bought.’

    b.  #... qishi  Zhangsan mei mai dongxi.  
    actually Zhangsan NEG buy stuff  
    ‘... actually Zhangsan did not buy anything.’

The second position for negation is on the verb in the cleft clause. For example, in (63), the negation on the verb ‘mai ‘buy’ cannot scope over *shi na-ben shu*, given the interpretation ii. is illicit. And the negation particle only adds a negation onto the presupposition, changing it to ‘there is some book that Zhangsan did not buy,’ which, as expected, cannot be cancelled, as the continuation (64-b) is infelicitous.

(63)  shi na-ben shu  Zhangsan mei mai.  
    COP DEM-CL book Zhangsan NEG buy.  
    i.  ‘It is that book that Zhangsan did not buy.’  
    ii.  ‘*It is not that book that Zhangsan bought.’

(64)  a.  ... shi  zhe-ben shu  Zhangsan mei mai.  
    ... COP DEM-CL book Zhangsan NEG buy  
    ‘... It is this book that Zhangsan did not buy.’

    b.  #... qishi  Zhangsan mai-le quanbu-de shu.  
    actually Zhangsan buy-PERF all-LNK book  
    ‘... actually Zhangsan bought all the books.’

One may suspect that the negation on *shi* is a constituent negation rather than a sentential negation, which then cannot suggest a bi-clausal structure. However, the concern can be removed with the possible occurrence and position of the *lian*-focus. As given in (65), the cleft in question can co-occur with a *lian*-focus following the pivot. In contrast, having *lian*-focus preceding *shi* is not grammatical, as given in (66). Given that *lian*-focus appears in the left-periphery and cannot occur with another focus in a mono-clause (see Badan & Del Gobbo 2011 etc.), the cleft structure in question must be a bi-clausal structure, where the cleft clause has its own split CP domain, where a *lian*-focus can appear.

(65)  a.  shi zhe-ben shu  *lian*  Zhangsan dou du-guo.  
    COP DEM-CL book LIAN Zhangsan DOU read-EXP  
    ‘It is this book that even Zhangsan has read.’

    b.  bu shi zhe-ben shu  *lian*  Zhangsan dou du-guo.  
    NEG COP DEM-CL book LIAN Zhangsan DOU read-EXP
'It is not this book that even Zhangsan has read.'

LIAN Zhangsan COP DEM-CL book DOU read-EXP
Intended: 'It is this book that even Zhangsan has read.'

LIAN Zhangsan NEG COP DEM-CL book DOU read-EXP
Intended: 'It is not this book that even Zhangsan has read.'

In other words, the presence of lian-focus in the cleft construction cannot be easily captured by any mono-clausal structure, like represented in (45) and (68) (Pan & Liu 2023).9

(67) [FocP [TP2 shi [ni-de taidu]], [Foc' [Foc0 ∅] [TP1 gongsi-de
be you-DE attitude
laoban bu xinshang t1]]]
oboss NEG appreciate
'It is your ATTITUDE that the boss of the company does not appreciate.'

(Pan & Liu 2023:14)

(68)

Hence, it is clear that there are two positions for negation in Mandarin cleft sentences, and each has its own scope. The fact is taken

9 Thanks to Norman Yeo for raising this alternative structure to me.
as evidence for a bi-clausal analysis, as a negation may occur in each clause independently.

3.2.2 *shi is a copula*

In the literature on Mandarin clefts and their relations, there is an active dispute about the nature and syntactic position of *shi* in the focus marking constructions. I argue that *shi* in the cleft in question is a copula, agreeing with Cheng (2008), Pan (2017), W. Paul & Whitman (2008) a.o. and arguing against an adverb analysis (Erlewine 2014) or a focus-marker analysis (Xu 2010, Murphy 2014).

One of the applicable diagnostic tests for predicates in Mandarin Chinese is A-not-A question formation, which is first described in C. N. Li & Thompson (1989). A verb or modal can appear in the alternative A-not-A questions and serves as a simple answer to such questions. For example, for an action verb like *chi* ‘eat,’ it is possible to form an A-not-A question as in (69-b) and (70-b), where the choice of negation depends on the aspectual information.

\[(69)\]
\[
\begin{align*}
\text{a. } & \text{ta chi mianbao.} \\
& 3SG \text{ eat bread} \\
& ‘(S)he eats bread.’ (Generic/Habitual)
\end{align*}
\]
\[
\begin{align*}
\text{b. } & \text{ta chi-bu-chi mianbao?} \\
& 3SG \text{ eat-NEG eat bread} \\
& ‘Does (s)he eat bread?’ (Generic/Habitual)
\end{align*}
\]

\[(70)\]
\[
\begin{align*}
\text{a. } & \text{ta chi-guo mianbao.} \\
& 3SG \text{ eat-EXP bread} \\
& ‘(S)he has eaten bread.’
\end{align*}
\]
\[
\begin{align*}
\text{b. } & \text{ta chi-meichu-guo mianbao?} \\
& 3SG \text{ eat-NEG eat-EXP bread} \\
& ‘Has (s)he eaten bread?’
\end{align*}
\]

However, it is not possible for an adverb, either a sentential adverb as in (71-a) or a manner adverb as in (72-a), to form such a yes/no question, as the corresponding ungrammatical questions show:

\[(71)\]
\[
\begin{align*}
\text{a. } & \text{xianran ta tou-le mianbao.} \\
& \text{obviously } 3SG \text{ steal-PERF bread} \\
& ‘Obviously, (s)he stole the bread.’
\end{align*}
\]
\[
\begin{align*}
\text{b. } & \text{*xianran-bu-xianran ta tou-le mianbao?} \\
& \text{obviously-NEG obviously } 3SG \text{ steal-PERF bread} \\
& \text{Intended: ‘Is it obvious that (s)he stole the bread?’}
\end{align*}
\]
\[
\begin{align*}
\text{c. } & \text{*xian-bu-xianran ta tou-le mianbao?} \\
& \text{obviously-NEG obviously } 3SG \text{ steal-PERF bread}
\end{align*}
\]
3.2 Syntactic Properties of a Cleft

Intended: ‘Is it obvious that (s)he stole the bread?’

(72) a. ta renzhen xie-wan-le zuoye.
   3SG carefully write-finish-PERF homework
   ‘(S)he finished the homework carefully.’

b. ∗ta renzhen-bu/mei-renzhen(-de) xie-wan-le
   3SG carefully-NEG-carefully-LNK write-finish-PERF zuoye?
   homework
   Intended: ‘Did (s)he finish the homework carefully?’

c. ∗ta ren-bu/mei-renzhen(-de) xie-wan-le
   3SG carefully-NEG-carefully-LNK write-finish-PERF zuoye?
   homework
   Intended: ‘Did (s)he finish the homework carefully?’

Now return to the clefts. As shown in (73), shi in the cleft sentences can generate a yes/no question by forming shi-NEG-shi, which indicates that shi is predicative. In other words, shi should be analysed as the matrix verb of the cleft sentence.

(73) A: shi-bu-shi Zhangsan he-le hongjiu?
    COP-NEG-COP Zhangsan drink-PERF red.wine
    ‘Is it Zhangsan who drank red wine?’

B: shi./ bu-shi.
    COP NEG-COP
    ‘It is./ It is not.’

Moreover, the A-not-A operator must have scope over the matrix predicate and cannot appear in the embedded clause (Gasde 2004). As a consequence, making an embedded clause A-not-A question results in ungrammaticality, as exemplified in (74).

(74) ∗Zhang San yunxu Li Si shi-bu-shi he piju
    Zhang San allow Li Si AM-not-AM drink beer
    Intended: ‘Has Zhang San allowed Li Si to drink beer?’
    (Gasde 2004:322)

In the cleft structure concerned, the pots-pivot part cannot be an A-not-A question, as the ungrammatical (75) shows. This fact further supports the analysis that shi is the matrix verb of the cleft structure and the post-pivot clause is an embedded clause.

(75) ∗shi Zhangsan he-bu-he hongjiu?
    COP Zhangsan drink-NEG-drink red.wine
    Intended: ‘Is it Zhangsan who drinks wine?’
In addition, a typical focus marker does not show such a predicative property. Given the sentence-initial position of *shi*, it should behave like the well-known *lian 'even'-focus marker if it were a focus marker. However, *lian* fails to form A-not-A questions, as shown in (76-b). Hence, the focus-marker analysis of *shi* does not hold.

(76)  
   a. *lian Zhangsan dou wancheng-le.  
        even Zhangsan DOU complete-PERF  
       ‘Even Zhangsan finished.’
        even-NEG-even Zhangsan DOU complete-PERF  
       Intended: ‘Is is even Zhangsan finished?’

3.2.3 CP attachment

In the literature about English *it*-clefts, it has been long assumed that the cleft clause is an extraposed restrictive relative clause of the subject *it*, which is adjoined to the VP, while Reeve (2012) argues for the DP attachment by showing its nature as an object relative. The examination could be simplified for Mandarin clefts since Mandarin generally does not allow extraposing subject relatives. As illustrated in (77), the restrictive relative clause modifies the subject in the normal position in (77-a), extraposing it to the end of the sentence raises ungrammaticality, as the ungrammatical example in (77-b) shows. Hence, the cleft clause in Mandarin is not extraposed.

(77)  
   a. mou-ge [wo bu renshi]-de ren likai-le  
        some-CL 1SG NEG know-LNK person leave-PERF  
       hiuyi-shi. meeting-room  
       ‘Someone that I don’t know left the meeting room.’
   b. *mou-ge ren likai-le huiyi-shi [wo bu  
        some-CL person leave-PERF meeting-room 1SG NEG  
        renshi]-de. know-LNK  
       Intended: ‘Someone left the meeting room whom I don’t know.’

Moreover, an A-not-A question formation with ellipsis can be used as a constituency test. As demonstrated above, only predicative elements are able to form a yes/no question via A-not-A, hence the grammatical (78-a) is a yes/no question with ellipsis, with the pivot and the cleft clause deleted. If they are elided independently, ellipsis with either one should be grammatical, otherwise, they get elided as a unit, indicating that they form a constituent. Crucially, (78-b) is grammatical while (78-c) is not, therefore the contrast is in line with
the constituency analysis. The cleft clause syntactically attaches to the pivot, forming a big DP constituent.

(78)  
shi Zhangsan likai-le huiyi-shi ...  
COP Zhangsan leave-PERF meeting-room ...  
‘It is Zhangsan who left the meeting room ...’

a. shi-bu-shi?  
COP-NEG-COP  
‘isn’t it?’

b. shi-bu-shi ta?  
COP-NEG-COP 3SG  
‘isn’t it him?’

c. *shi-bu-shi likai-le huiyi-shi?  
COP-NEG-COP leave-PERF meeting-room  
Intended: ‘isn’t it him who left the meeting room?’

3.2.4 A restrictive relative clause

There is a cross-linguistically widespread connection between clefting and relativisation, and the cleft clause shares the surface characteristics of a restrictive relative clause (e.g., Schachter 1973, Wurmbrand 2000). The assumption that the pivot serves as the antecedent of the cleft clause can be (indirectly) supported by the connectivity effect, reflected via the idiomatic reconstruction effect, which is available in both declarative and interrogative clefts. As exemplified in (79) and (80), the intended idiomatic reading is available in clefts.

(79)  
chi-cu  
eat-vinegar  
‘be jealous of’

(80)  
COP Zhangsan-LNK vinegar Mary often eat  
Lit.: ‘It is Zhangsan’s vinegar Mary often eats.  
Idiomatic: ‘It is Zhangsan that Mary is often jealous of.’

b. shi [shei-de cu] mali changchang chi?  
COP who-LNK vinegar Mary often eat  
Lit.: ‘Whose vinegar is it that Mary often eats?  
Idiomatic: ‘Whom is it that Mary is often jealous of?’

According to the literature on idioms, non-compositional idiom chunks must be understood exactly as if they were reconstructed because the idiomatic interpretation cannot be derived compositionally from the meanings of their parts (e.g., Sportiche 2006). Given that the idiomatic reading is available in (80), it is deduced that the pivots Zhangsan-de cu ‘Zhangsan’s vinegar’ and shei-de cu ‘whose vinegar’
must reconstruct and interpret altogether with *chi* ‘eat’. Otherwise, the idiom chunk would receive only the literal meaning independently of the rest of the idiom. Hence, it is reasonable to assume that the cleft clause is a relative clause modifying the pivot. With this assumption, the idiomatic reading can be achieved via a null relative operator in relativisation without additional assumptions.

One may ask the question why there is no linker *de* following the relative clause, which is known as an important element in marking modification relations in Mandarin. I claim that the current configuration does not contain a linker at all, and though there are expressions that do allow or involve a linker(-like) *de*, they can be teased apart from the current cleft construction. The first one that may lead to confusion is a sentence-final particle *de*, which has the same form as a linker. As illustrated in (81), the particle linker can be optionally present in a declarative cleft ((81-a), while its presence in a *wh*-cleft causes awkwardness ((81-b)). In a recent discussion by Y. Liu & Shi (2022), the sentence-final particle *de* is analysed as an emphatic marker, which can be used in an answer to a yes-no question that asks for the truth value of a proposition. If so, the odd *wh*-cleft is expected as *wh*-questions evoke a set of propositions, which is incompatible with the presence of the particle. It is out of the scope of the current dissertation to examine the pragmatic licensing and the semantic function of the particle, but it is clear that this sentence-final element is not associated with the relative clause.

(81)  

a. shi Zhangsan kai-le men (de).  
COP Zhangsan open-PERF door DE  
‘It is Zhangsan who open the door.’

b. shi shei kai-le men (?de)?  
COP who open-PERF door DE  
Intended: ‘Who is it that opened the door?’

Another structure that might be confused with clefts has a disguised linker, as instantiated in (82). As indicated in the examples, there is a pause in the expressions, represented by the comma.

(82)  

a. shi Zhangsan, [kai-le men]-de.  
COP Zhangsan open-PERF door-LNK  
‘It is Zhangsan, (the one who) opened the door.’

b. shi shei, [kai-le men]-de?  
COP who open-PERF door-LNK  
‘Who is it, (the one who) opened the door?’

The expressions allow a fully-fledged DP to be realised following the linker, which is co-indexical with the noun that comes after *shi*. 
(83)  a.  shi Zhangsan, [kai-le men]-de na-ge ren.
    COP Zhangsan open-PERF door-LNK that-CL person
    ‘It is Zhangsan, the one who opened the door.’

    b.  shi shei, [kai-le men]-de na-ge ren?
    COP who open-PERF door-LNK that-CL person
    ‘Who is it, the one who opened the door?’

Moreover, such right-dislocated modifiers are not compatible with a universal quantifier immediately following shi. In (84), the relative clause ‘published in 2023’ is used to restrict the universal quantifier, making it, the pivot, possible in a cleft. Crucially, as illustrated in (85), the additional modifier with the linker cannot appear here.

(84)  shi 2023-nian chuban-de mei-yi-ben shu Zhangsan
    COP 2023-year publish-LNK every-one-CL book Zhangsan
    hen xihuan.
    very like
    ‘It is every book that is published in 2023 that Zhangsan likes.’

(85)  shi 2023-nian chuban-de mei-yi-ben shu, [?”Zhangsan
    COP 2023-year publish-LNK every-one-CL book Zhangsan
    xihuan]-de.
    like-LNK
    ‘It is every book that is published in 2023, (the one that) Zhangsan likes.’

The properties listed here suggest an appositive analysis of the right-dislocated modifier, which independently allows optional noun ellipsis. The assumption is also in line with the flexible word order: when such a modifier is allowed (i.e., the noun following shi is not a universal quantifier), it can present either next to the noun, as in (86-a) or be separated, as in (86-b). In both cases, its DP head can be spelt-out.

(86)  a.  shi Zhangsan, [kai-le men]-de (na-ge ren),
    COP Zhangsan open-PERF door-LNK that-CL person
    mali zuotian yujian-le.
    Mary yesterday meet-PERF
    ‘It is Zhangsan, (the one who) opened the door, that Mary met yesterday.’

    b.  shi Zhangsan mali zuotian yujian-le, [kai-le
    COP Zhangsan Mary yesterday meet-PERF open-PERF
    men]-de (na-ge ren).
    door-LNK that-CL person
    ‘It is Zhangsan, (the one who) opened the door, that Mary met yesterday.’
As expected, the appositive modifier cannot co-occur with a universal quantifier in either position.

\[(87)\]  
\[\begin{align*}
\text{a. } & \text{ 张三喜欢的书} \\
& \text{是} \text{2023年出版的。} \\
& \text{2023-year出版的, 张三喜欢的, 书} \\
\text{Intended: 'It is every book that is published in 2023 that is interesting, (the one that) Zhangsan likes.'}
\end{align*}\]

\[\begin{align*}
\text{b. } & \text{ 张三喜欢的书} \\
& \text{是} \text{2023年出版的。} \\
& \text{2023-year出版的, 张三, 喜欢的, 书} \\
\text{Intended: 'It is every book that is published in 2023, Zhangsan likes, (the one that) that is interesting.'}
\end{align*}\]

Therefore, it is reasonable to conclude that examples like (82) are not the same constructions as those are considered clefts in the current discussion, since the linker comes with an additional appositive DP modifier.

In sum, examples in (81) or (82) are different from the cleft constructions on which we concentrate here, whose relative clause is not accompanied by a linker.

In addition, a non-linker relative has nothing special in terms of structure and can be found in other constructions too. The existential construction, for instance, which contains the word you, literally ‘have’, with the basic structure [you DP XP] (Huang 1987, Y.-H. Liu 2011). As shown in (88-a), you appears in the sentence-initial position and the post-you noun phrase is followed by a predicate-like chunk XP. Since you can also appear as a predicate in locative and possessive expressions, the configuration could be a bi-clausal.

\[(88)\]  
\[\begin{align*}
\text{a. } & \text{ 张三买的书} \\
& \text{很多} \\
& \text{buy-PERF} \\
\text{‘(There are) many books that Zhangsan bought.’}
\end{align*}\]

\[\begin{align*}
\text{b. } & \text{ 张三买的书} \\
& \text{多少} \\
& \text{buy-PERF} \\
\text{‘How many books (are there) that Zhangsan bought?’}
\end{align*}\]

As discussed in Scontras et al. (2017), for the example in (89), the bi-clausal structure can be represented as in (90), where you composes with an indefinite object which is then modified by a relative clause containing a universally quantified noun. If this analysis is on the right track, the relative clause in existential construction counts as another example of a relative clause that is not accompanied with a linker.
The cleft construction and the existential construction share similarities given the bi-clausal structure, and in particular, in both cases the relative clause modifies the antecedent that is lineally preceding it, which is not the common case in Mandarin. Thus, if we assume that the linker attaches to the modifier and points to the head (see Philip 2012 for an assumption of Mandarin de being a Dependent-marking functional head), it is not too surprising for the absence of a linker when the antecedent precedes the relative clause.

3.3 \( wh \)-clefts

A \( wh \)-cleft can be constructed by putting a \( wh \)-phrase into the pivot position, as the example (41-b) shows, repeated here in (91).

(91)  
\[
\begin{align*}
\text{shi shei mai-le yi-ben shu?} \\
\text{COP who buy-PERF one-CL book}
\end{align*}
\]
‘Who is it that bought a book?’

Note that when there is only one \( wh \)-phrase in the cleft, it has to be in the pivot position. Otherwise, it would give rise to ungrammaticality, as example (92) shows.

(92)  
\[
\begin{align*}
\text{*shi Zhangsan mai-le shenme?} \\
\text{COP Zhangsan buy-PERF what}
\end{align*}
\]
Intended: ‘It is Zhangsan who bought what?’

In the following, I will present data of \( wh \)-clefts that contains more than one \( wh \)-phrase. First of all, Mandarin clefts do not allow multiple pivots. So, apparently having two \( wh \)-phrases as pivots simultaneously is bad.

(93)  
\[
\begin{align*}
\text{*shi shenme liwu (gei) shei Zhangsan song-le.} \\
\text{COP what gift to who Zhangsan give-PERF}
\end{align*}
\]
Lit: ‘What gift to whom is it that Zhangsan gave?’
However, Mandarin clefts allow multiple *wh*-questions, with only one of the *wh*-phrases being the pivot. There are two possibilities for the distribution of the non-pivot *wh*-phrase, either in the cleft clause or in the left periphery of the whole cleft sentence. For the former, as demonstrated in (94), the subject *wh*-phrase serves as the pivot, and the *wh*-object is in the cleft clause. The lack of availability of the resumptive subject pronoun suggests that the first *wh*-phrase is associated with focus, which is in line with the cleft construction as a focus-marking strategy.

(94)  
\[
\text{shi shei} \left[\text{na-shou ge}\right] (\text{ta\_1}) \text{ chang-le}\]  
COP who 3SG sing-PERF which-CL song  
‘Who is it that sang which song?’

The latter is instantiated in (95), where the *wh*-subject precedes *shi*, and the *wh*-object is in the pivot position, where only the former allows a resumptive pronoun in the base position. As indicated by the answer, the first *wh*-phrase in the *wh*-cleft is answered by a topic, and the second one is answered by the clefted focus, as illustrated in B1 in (95). Therefore, in this variation of *wh*-clefts, the high *wh*-phrase is analysed to be base-generated in the pre-pivot position.

(95)  
\[
\text{A: shei} \left[\text{na-shou ge}\right] \left(\text{ta\_1}\right) \text{ chang-le} \left(\text{ta\_1}\right)?  
\text{who COP which-CL song 3SG sing-PERF 3SG}  
‘(For) who, which song is it that (s)he sang?’
\]

\[
\text{B: Zhangsan, shi Liang-zhi Laohu (ta) chang-le. }  
\text{Lisi, shi Zhangsan COP two-CL tiger 3SG sing-PERF Lisi COP}  
\text{Ba Luobo (ta) chang-le. Wangwu, shi Xiao Xingxing pluck radish 3SG sing-PERF Wangwu COP little star}  
\text{(ta) chang-le. 3SG sing-PERF}  
‘(For) Zhangsan, it is Two Tigers that he sang. (For) Lisi, it is Pluck Radish that he sang. (For) Wangwu, it is Little Stars that he sang.’
\]

Note that having the non-pivot *wh*-phrase in the left periphery of the cleft clause is possible, with it being moved as contrastive focus, as the interpretation and the lack of the resumptive pronoun indicate. The movement of the second *wh*-phrase, of course, needs to be contextually licensed with additional contrastive reading on it or uttered as an asking-for-repeat/echo question.

(96)  
\[
\text{a. shei} \left[\text{na-shou ge}\right] (\text{ta\_1}) \text{ chang-le} (\text{ta\_1})?  
\text{COP who which-CL song 3SG sing-PERF 3SG}  
‘Who is it that sang which song (but did not sing which song)?’
\]
b. shi shei (*ta) [na-shou ge] chang-le (*ta)?
   COP who 3SG which-CL song sing-PERF 3SG
   ‘Who is it that sang which song (but did not sing which song)?’

Moreover, as shown in B1 in (97), both wh-clefts with multiple wh-phrases require a completed answer and a partial answer is not satisfying, indicating that the wh-cleft also exhibits exhaustivity. And as shown in B2, an answer that cancels the existential presupposition is also infelicitous, indicating the questions also convey presuppositions.

(97) a. shi shei chang-le na-shou ge?
   COP who sing-PERF which-CL song
   ‘Who is it that sang which song?’

b. shei shi na-shou ge chang-le?
   who COP which-CL song sing-PERF
   ‘(For) who, which song is it that (s)he sang?’

B1: # biru, Zhangsan, shi Liang-zhi Laohu (ta)
   for.example Zhangsan COP two-CL tiger 3SG
   chang-le.
   sing-PERF
   ‘For example, (or) Zhangsan, it is Two Tigers that he sang.’

B2: #2 meiyou ren chang renhe ge.
   no person sing any song
   ‘No one sang any song.’

In sum, mandarin clefts allow a single wh-phrase in the pivot position and also allow an additional wh-phrase sitting in the cleft clause or in the left periphery of the entire cleft, and the wh-clefts - with single or multiple wh-phrases - show the semantic properties of exhaustivity and presuppositions as other (declarative) clefts.

3.4 INTERIM SUMMARY

This chapter has established the structure of Mandarin clefts, which resemble English il-clefts. The detailed structure of Mandarin clefts and related constructions (containing shi and/or de) has often puzzled researchers in the literature. The current analysis offers a competitive option by proposing a new type of relative clause that does not require a linker following it, thus simplifying the structure. In addition to simplifying the structure, this analysis demonstrates that Mandarin clefts can form both single wh-questions and multiple wh-questions. The latter also exhibits variations in the relative word order among the wh-phrases and the copula. Inspired by the phenomena of
wh-clefts, the next chapter will present empirical data from sluicing and wh-clefts, establishing parallels between these two constructions. Following this examination, I will provide further details about the derivation of sluicing from wh-clefts.
WH-CLEFTS ARE PRE-SLUICES

4.1 SINGLE SLUICING

First of all, neither sluicing nor wh-cleft can be uttered out-of-the-blue, though sluicing needs to be licensed with an explicit antecedent, while wh-clefts only call for an implicit one. As given in (98), with an explicit statement, ‘Zhangsan bought a book,’ the sluice in (98)B1 and wh-cleft in (98)B2 can be uttered. Replacing a pronounced antecedent with a piece of non-pronounced shared knowledge as in (99), renders sluicing unacceptable, whereas wh-clefts are still fine. Finally, in (100), neither sluicing nor wh-clefts are compatible in a context that does not provide any existential presupposition upon the wh-phrase. The two constructions pattern the same in requiring the antecedent, but sluicing has a stronger requirement, which is expected as sluicing is an elliptical construction and thus has a recoverability requirement.

(98)  
A: Zhangsan mai-le yi-ben shu.  
Zhangsan buy-PERF one-CL book  
‘Zhangsan bought a book.’

B1: shi shenme-shu?  
COP what-book  
‘what book?’

B2: shi shenme-shu Zhangsan mai-le?  
COP what-book Zhangsan buy-PERF  
‘What book is it that Zhangsan bought?’

(99)  
Context: Zhangsan bought a book.

B1: # shi shenme-shu?  
COP what-book  
‘what book?’

B2: shi shenme-shu Zhangsan mai-le?  
COP what-book Zhangsan buy-PERF  
‘What book is it that Zhangsan bought?’

(100)  
#(Context/Statement: Zhangsan bought a book.)

B1: shi shenme-shu?  
COP what-book  
‘what book?’

B2: shi shenme-shu Zhangsan mai-le?  
COP what-book Zhangsan buy-PERF  
‘What book is it that Zhangsan bought?’
The contextual requirement expands to \textit{wh}-adjuncts as well.

\begin{enumerate}
  \item[(101)] A: Zhangsan ganggang ku-le.
      \begin{tabular}{l}
      Zhangsan just.now cry-PERF
      \end{tabular}
      ‘Zhangsan cried just now.’
  \item B1: (shi) weishenme?
      \begin{tabular}{l}
      COP why
      \end{tabular}
      ‘Why?’
  \item B2: (shi) weishenme ta ganggang ku-le?
      \begin{tabular}{l}
      COP why 3SG just.now cry-PERF
      \end{tabular}
      ‘Why is it that he cried just now?’
\end{enumerate}

\begin{enumerate}
  \item[(102)] context: ‘Zhangsan cried just now.’
  \item B1: (shi) weishenme?
      \begin{tabular}{l}
      COP why
      \end{tabular}
      ‘Why?’
  \item B2: (shi) weishenme ta ganggang ku-le?
      \begin{tabular}{l}
      COP why 3SG just.now cry-PERF
      \end{tabular}
      ‘Why is it that he cried just now?’
\end{enumerate}

\begin{enumerate}
  \item[(103)] #(context/statement: ‘Zhangsan cried just now.’)
  \item B1: (shi) weishenme?
      \begin{tabular}{l}
      COP why
      \end{tabular}
      ‘Why?’
  \item B2: (shi) weishenme ta ganggang ku-le?
      \begin{tabular}{l}
      COP why 3SG just.now cry-PERF
      \end{tabular}
      ‘Why is it that he cried just now?’
\end{enumerate}

Both sluicing and \textit{wh}-clefs do not allow a partial answer. As in \textbf{(104)} and \textbf{(105)}, the A1 answer is infelicitous because it only provides part of the answer, which has to be a completed one, as the good answer in A2 suggests.

\begin{enumerate}
  \item[(104)] Zhangsan mai-le shu, dan wo bu zhidao shi shenme
      \begin{tabular}{l}
      Zhangsan buy-PERF book but 1SG NEG know COP what
      \end{tabular}
      book
      ‘Zhangsan bought books, but I don’t know what books.’
  \item A1: # wo zhidao. biru, Zuijian Fangan.
      \begin{tabular}{l}
      1SG know for.example \textit{Minimalist Program}
      \end{tabular}
      Intended: ‘I know. For example, \textit{Minimalist Program}.’
  \item A2: wo zhidao. Zhangsan mai-le Zuijian Fangan he
      \begin{tabular}{l}
      1SG know Zhangsan buy-PERF \textit{Minimalist Program} and
      \end{tabular}
      Jufa Jiegou.
      \begin{tabular}{l}
      \textit{Syntactic Structure}
      \end{tabular}
      ‘I know. Zhangsan bought \textit{Minimalist Program} and \textit{Syntactic Structures}.’
\end{enumerate}
Moreover, idiomatic reconstruction is possible in both types of questions. As mentioned before, the verb phrase *chi cu* ‘eat vinegar’ conveys an idiomatic reading of ‘be jealous of.’ The sluicing (106-a) and *wh*-cleft (106-b) are both grammatical and the idiomatic reading is accessible.

(106)    *chi cu*
    eat vinegar
    Lit. ‘eat vinegar’
    Idiomatic: ‘be jealous of’

a.    Zhangsan zong *chi [yi-ge ren]-de cu*, dan
    Zhangsan always eat *one-CL person-LNK* vinegar but
    wo bu zhidao shi shei-de cu.
    1SG NEG know COP who-LNK vinegar
    Lit. ‘Zhangsan is always eating someone’s vinegar, but
    I don’t know whose vinegar.’
    Idiomatic: ‘Zhangsan is always being jealous of some-
    one, but I don’t know who.’

b.    Zhangsan zong *chi [yi-ge ren]-de cu*, dan
    Zhangsan always eat *one-CL person-LNK* vinegar but
    wo bu zhidao shi shei-de cu ta zong *chi.*
    1SG NEG know COP who-LNK vinegar 3SG always eat
    Lit. ‘Zhangsan is always eating someone’s vinegar, but
    I don’t know whose vinegar it is that he is always eat-
    ing.’
    Idiomatic: ‘Zhangsan is always being jealous of some-
    one, but I don’t know who it is that he is being jealous of.’
Furthermore, when a *wh*-cleft interrogative is ungrammatical, sluicing becomes unavailable as well. As previously mentioned, Mandarin sluicing involving ‘how’ is notably sensitive to the fine structure of the antecedent. This sensitivity is exemplified in both (107) and (108), where both antecedents convey the same meaning. However, the former employs the *ba*-construction, while the latter employs a plain transitive V-O predicate. Intriguingly, only the former can license grammatical sluicing for some speakers to some extent, as seen in (107-a). Remarkably, the acceptability and grammaticality judgements remain consistent between sluicing and *wh*-cleft construction for the same group of speakers. 

(107)  Zhangsan *ba* che xiu-hao-le, dan wo bu zhidao ...
      Zhangsan BA car fix-good-PERF but 1SG NEG know
      ‘Zhangsan fixed the car, but I don’t know ...’

   a. %*shi* zemneyang.
      COP how
      ‘how.’

   b. %*shi* zemneyang ta *ba* che xiu-hao-le.
      COP how 3SG BA car fix-good-PERF
      ‘how it is that he fixed the car.’

(108)  Zhangsan xiu-hao-le che, dan wo bu zhidao ...
      Zhangsan fix-good-PERF car but 1SG NEG know
      ‘Zhangsan fixed the car, but I don’t know ...’

   a. ?*shi* zemneyang.
      COP how
      Intended: ‘how.’

   b. ?*shi* zemneyang ta xiu-hao-le che.
      COP how 3SG fix-good-PERF car
      Intended: ‘how it is that he fixed the car.’

   c. *shi* zemneyang ta *ba* che xiu-hao-le.
      COP how 3SG BA car fix-good-PERF
      ‘how it is that he fixed the car.’

This pattern provides valuable insights in two ways. First, it highlights the parallelism between sluicing and *wh*-clefts. Second, considering that the sole distinction between (107) and (108) is rooted in the fine structure of the antecedent, and given that the *wh*-cleft with the *ba*-construction is compatible with the antecedent in (108) while sluicing is not, it suggests that the antecedent’s structure matters to some extent in generating Mandarin sluicing. Given the fact that positing a syntactically isomorphic structure in sluicing is too rigid to allow

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10 The judgements upon the *how*-sluice displays variations to a great extent, I will leave some more detailed discussions in the future work.
some case mismatches in many other languages, the fit condition proposed in Abels (2017:13) can be adopted to capture the facts here, as given in (109).

(109) Fit condition

Modulo agreement in the antecedent and wh-movement, replacing the correlate by the remnant in the antecedent must lead to a syntactically well-formed structure with the right meaning or – for sprouting – adding the correlate into the antecedent and making no further changes must lead to a syntactically well-formed structure with the intended thematic interpretation.

(Abels 2017:13)

In other words, a proper remnant needs to fit into both the antecedent and the ellipsis site. For example, the remnant (i) in (110-b) is not qualified because it does not fit into the antecedent, as ‘who is she proud?’ is ungrammatical in English.

(110) a. Mary is proud of someone, but she won’t tell us
   (i) who.
   (ii) of who.
   b. Mary is proud, but she won’t tell us
      (i)*who.
      (ii) of who.

(Abels 2017:15)

Similarly, in the case of (108), the remnant shi znmeyang cannot fit into the antecedent without the bu-construction and make a grammatical expression, as in (111-a). On the contrary, the remnant can fit into the antecedent with the bu-construction and form a grammatical question, as in (111-b). Therefore, the sluice with ‘how’ is possible in Mandarin and it poses some requirements on the form of the antecedent that hold cross-linguistically.

(111) a. *shi znmeyang ta xiuhao-le che?
   COP how 3SG fix-good-PERF car
   Intended: ‘How is it that he fixed the car?’

   b. shi znmeyang ta ba che xiuhao-le?
   COP how 3SG BA car fix-good-PERF
   ‘How is it that he fixed the car?’
In addition, the *wh*-cleft can provide access to a sloppy reading, similarly to sluicing does. As given in (112), both expression can have the sloppy reading, ‘Lisi knows why he(=Lisi) was scolded.’

(112)  
\[\text{Zhangsan}_1 \text{ bu zhidao ta}_1 \text{ weishenme bei ma, } ...\]  
\[\text{Zhangsan NEG know 3SG why PASS scold}\]  
‘Zhangsan doesn’t know why he was scolded, ...’

a.  
\[\text{dan Lisi}_j \text{ zhidao (shi) weishenme.}\]  
\[\text{but Lisi know COP why}\]  
‘but Lisi knows why.’ (strict/sloppy)

b.  
\[\text{dan Lisi}_j \text{ zhidao (shi) weishenme ta bei ma.}\]  
\[\text{but Lisi know COP why 3SG PASS scold}\]  
‘but Lisi knows why it is that he was scolded.’ (strict/sloppy)

Both sluicing and *wh*-clefs are possible in argument and adjunct sprouting, when the pragmatic constraint is satisfied, as discussed in Chapter 2.

(113)  
\[\text{wo zhidao ta chi-le; dan wo bu zhidao ...}\]  
\[\text{1SG know 3SG eat-PERF but 1SG NEG know}\]  
‘I know he ate, but I don’t know ...’

a.  
\[\text{shi shenme dongxi.}\]  
\[\text{COP what stuff}\]  
‘what stuff.’

b.  
\[\text{shi shenme dongxi ta chi-le.}\]  
\[\text{COP what stuff 3SG eat-PERF}\]  
‘what stuff it is that he ate.’

---

11 Wei (2009) as well as Adams (2004) discusses at length of how and why the spelt-out demonstrative pronoun *na* removes the availability of the sloppy reading, as illustrated below:

(i)  
\[\text{Zhangsan bu zhidao ta weishenme bei ma, dan Lisi zhidao na}\]  
\[\text{Zhangsan not know-he why PASS scold but Lisi know that}\]  
\[\text{(ge-yuanyin) *(shi) weishenme.}\]  
\[\text{CL-reason be why}\]  
‘Zhangsan didn’t know why he was scolded, but Lisi knows why he was scolded.’ (Embedded strict/*sloppy)  
‘Zhangsan didn’t know why he was scolded, but Lisi knows why Zhangsan didn’t know why he is scolded.’ (Matrix strict/*sloppy)

\[(\text{Wei 2009:9})\]

As mentioned in footnote 7, the demonstrative pronoun is more similar to an anaphora which refers to an event or a proposition, that should be different from a demonstrative use that encodes definiteness, as in (i) according to Wei’s 2009 translation. And if it does indeed take a sentential reference, the disappearance of the sloppy reading is not too surprising as there is no corresponding event/statement available for referring using an anaphora. I will leave working out the details as a topic for further research.
(114) a. Ruguo Abao qu mo-ge difang, ta mama kending
    if Abao go some-CL place 3SG mom definitely
    zhidao (shi) nali.
    know where
    ‘If Abao goes to some place, her mother knows for sure
    where.’

   (Adams 2004:3)

b. ... (shi) nali ta qu.
   COP where 3SG go
   ‘... where it is that he goes.’

    Last but not least, the optionality of shi also shows a parallel be-
    tween the two constructions. According to Adams (2004) and Adams
    & Tomioka (2012), shi is required when the remnant is wh-argument
    shei ‘who’ and shenme ‘what’, while it is optional in other remnants,
    including wh-adverbs, prepositional phrases (e.g., ‘with whom’) and
    complex-wh phrases (e.g., ‘which person’), which are listed in (115)
    to (117), respectively.

(115) Zhangsan qu chuchai-le, dan wo bu zhidao ...  
     Zhangsan go business.trip-PERF but I not know
     ‘Zhangsan went on a business trip, but I don’t know ...’

a. (shi) weishenme.
    COP why
    ‘why.’

b. (shi) weishenme ta qu chuchai-le.
    COP why 3SG go business.trip-PERF
    ‘why it is that he went on a business trip.’

(116) Zhangsan he mouren qu chuchai-le, dan wo bu  
     Zhangsan with someone go business.trip-PERF but I not
     know
     ‘Zhangsan went on a business trip with someone, but I don’t
     know...’

a. (shi) he shei.
    COP with who
    ‘with whom.’

b. (shi) he shei ta qu chuchai-le.
    COP with who 3SG go business.trip-PERF
    ‘with whom it is that he went on a business trip.’

(117) Zhangsan jian-le yi-ge ren, dan wo bu zhidao ...  
     Zhangsan meet-PERF one-CL person but I not know
     ‘Zhangsan met a person, but I don’t know ...’

a. (shi) na-ge ren.
    COP which-CL person
‘which person.’

b. (shi) na-ge ren ta jian-le.
   COP which-CL person 3SG meet-PERF
   ‘which person it is that he met.’

Our informants agree with the judgements about (115) and (116) although some of them show a preference for the overt shi in complex wh-arguments like in (117). What is important is that for these speakers, the preference of an overt shi is also found in the wh-clefts, as shown in (118). Hence, there is a near perfect alignment regarding the presence/absence of shi in the two constructions.

(118) Zhangsan jian-le yi-ge ren, dan wo bu zhidao ...
   Zhangsan meet-PERF one-CL person but I not know
   ‘Zhangsan met a person, but I don’t know ...’

a. ?(shi) na-ge ren.
   COP which-CL person
   ‘which person.’

b. ?(shi) na-ge ren ta jian-le.
   COP which-CL person 3SG meet-PERF
   ‘which person it is that he met.’

Therefore, I conclude that the wh-cleft patterns with single sluicing in terms of their contextual licensing, distribution and grammaticality, which hence can be considered as the source of sluicing.

4.2 MULTIPLE SLUICING

In this section, I will show that wh-clefts containing more than one wh-phrase display parallelism to multiple sluicing. I will start with questions with two wh-arguments.

In a karaoke scenario in (119), there are in total three people in the room and each of them has sung a song. In other words, what the multiple wh-question is asking for is the matching relation between a set of singers (which has three members) and a set of songs, i.e. a pair-list answer. To this end, questions in (119) and (120) can be used, in which the a-sentences are sluices and b-sentences are the wh-clefts that have the same relative order of wh-remnants. It should be pointed out that in the wh-clefts in (120-b), the first wh-phrase is analysed as base-generated above IP, since a co-indexed pronoun in the IP is possible, suggesting that there is no movement of this element.

(119) zhe san-ge ren mei-ren chang-le san-shou ge,
   DEM three-CL person each-person sing-PERF three-CL song
dan wo wangji ...
   but I forget
'Each of these three people sang three songs, but I forget ...'

a. shi na-ge ren shenme ge.
   COP which-CL person what song
   'which person what song.'

b. shi [na-ge ren]i ("ta") chang-le shenme ge.
   COP which-CL person 3SG sing-PERF what song
   'which person it is that sang what song.'

\((120)\)

a. ... na-ge ren shi shenme ge.
   ... which-CL person COP what song
   '... which person what song.'

b. ... [na-ge ren]i shi shenme ge * (ta) i chang-le.
   ... which-CL person COP what song 3SG sing-PERF
   '... (for) which person, what song it is that (s)he sang.'

As attested in single sluicing, both multiple *wh*-expressions need contextual licensing and should not be used out-of-the-blue. (121) shows that without an explicit antecedent, neither multiple sluicing remnants can be uttered. For *wh*-clefts, the requirement is simply that there should be a piece of shared knowledge among interlocutors of the existential presupposition of the correlate, as (122) demonstrates.

\((121)\) #(zhe san-ge ren mei-ren chang-le san-shou
   this three-CL person each-person sing-PERF three-CL
   ge, dan wo wangji ...)
   song but I forget
   'Each of these three people sang three songs, but I forget...'

a. shi na-ge ren shenme ge.
   COP which-CL person what song
   'which person what song.'

b. ... na-ge ren shi shenme ge.
   ... which-CL person COP what song
   '... which person what song.'

\((122)\) # (Context: Each of these three people sang three songs.)

a. shi [na-ge ren]i ("ta") chang-le shenme ge?
   COP which-CL person 3SG sing-PERF what song
   'Which person is it that sang what song?'

b. [na-ge ren]i shi shenme ge * (ta) chang-le?
   which-CL person COP what song 3SG sing-PERF
   '(For) which person, what song is it that (s)he sang?'

In a question-answer pair, both multiple sluicing and *wh*-clefts require a full list of paired answers. In other words, a partial answer like one single pair is not compatible. In the karaoke scenario, to answer
the multiple sluicing, an incomplete answer with ‘for example’ like in 123 is infelicitous. In contrast, the completed one as in 123 is alright. The same contrast is found in \textit{wh}-clefts, as exemplified in (124).

\begin{footnotesize}
(123) \begin{align*}
\text{... } & \text{shi na-ge ren shenme ge / na-ge ren} \\
& \text{... } \text{COP which-CL person what song which-CL person} \\
& \text{shi shenme ge.} \\
& \text{COP what song} \\
& \text{‘... which person what song / which person what song.’}
\end{align*}
\end{footnotesize}

A1: wo zhidao. biru, Zhangsan chang-le Liang-zhi
\begin{footnotesize}
\text{iSG know for.example Zhangsan sing-PERF two-CL} \\
\text{Laohu.} \\
\text{tiger} \\
\text{Intended: ‘I know. For example, Zhangsan sang Two Tigers.’}
\end{footnotesize}

A2: wo zhidao. Zhangsan chang-le Liang-zhi Laohu, Lisi
\begin{footnotesize}
\text{iSG know Zhangsan sing-PERF two-CL tiger Lisi} \\
\text{chang-le Ba Luobo, Wangwu chang-le Xiao Xingxing.} \\
\text{sing-PERF pluck radish Wangwu sing-PERF little star} \\
\text{‘I know. Zhangsan sang Two Tigers, Lisi sang Pluck Radish,} \\
\text{and Wangwu sang Little Stars.’}
\end{footnotesize}

\begin{footnotesize}
(124) \begin{align*}
\text{... } & \text{shi [na-ge ren]}_i \text{ (*ta)}_i \text{ chang-le shenme ge /} \\
& \text{... } \text{COP which-CL person 3SG sing-PERF what song /} \\
& \text{[na-ge ren]}_i \text{ shi shenme ge *(ta)}_i \text{ chang-le.} \\
& \text{which-CL person COP what song 3SG sing-PERF} \\
& \text{‘... which person it is that sang what song / (for) which person, what song it is that (s)he sang.’}
\end{align*}
\end{footnotesize}

A1: wo zhidao. biru, Zhangsan chang-le Liang-zhi
\begin{footnotesize}
\text{iSG know for.example Zhangsan sing-PERF two-CL} \\
\text{Laohu.} \\
\text{tiger} \\
\text{Intended: ‘I know. For example, Zhangsan sang Two Tigers.’}
\end{footnotesize}

A2: wo zhidao. Zhangsan chang-le Liang-zhi Laohu, Lisi
\begin{footnotesize}
\text{iSG know Zhangsan sing-PERF two-CL tiger Lisi} \\
\text{chang-le Ba Luobo, Wangwu chang-le Xiao Xingxing.} \\
\text{sing-PERF pluck radish Wangwu sing-PERF little star} \\
\text{‘I know. Zhangsan sang Two Tigers, Lisi sang Pluck Radish,} \\
\text{and Wangwu sang Little Stars.’}
\end{footnotesize}

In the same scenario, when the \textit{wh}-cleft is bad, sluicing is ungrammatical as well. Abels & Dayal (2023) claimed that the remnants in multiple sluicing are subject to Superiority. So, moving a \textit{wh}-object across the \textit{wh}-subject is disallowed. As given in (125-a), the order \textit{shi-} \textit{wh} object-\textit{wh} subject is not allowed, suggesting that Mandarin mul-
tiple sluicing is also subject to Superiority. Importantly, the *wh*-cleft with an initial *shi* does not allow Superiority violation either.

(125)  
\begin{itemize}
\item a. \ldots*\textit{shi} shenme ge na-ge ren.
\end{itemize}  
\begin{itemize}
\item \ldots COP what song CL person
\end{itemize}  
\begin{itemize}
\item Intended: ‘\ldots which person which song?’
\end{itemize}  
\begin{itemize}
\item b. \ldots*\textit{shi} shenme ge na-ge ren chang-le.
\end{itemize}  
\begin{itemize}
\item \ldots COP what song person sing-PERF
\end{itemize}  
\begin{itemize}
\item Intended: ‘\ldots what song it is that which person sang.’
\end{itemize}  

Mandarin multiple sluicing also obeys the cross-linguistic valid asymmetry between the two *wh*-remnants, with the ‘higher’ *wh*-argument being hierarchically prominent (Kotek & Barros 2018). In the *wh*-*shi*- *wh* case, the higher one is assumed to be base-generated higher than the IP and the answer to it is an (aboutness) topic. Thus, in this case, swapping the two *wh*-arguments causes problems in Information Structure, as the bad example (126-a) shows. Once again, the corresponding *wh*-cleft is bad too.

(126)  
\begin{itemize}
\item a. \ldots*\textit{shenme ge} \textit{shi} na-ge ren?
\end{itemize}  
\begin{itemize}
\item \ldots song COP which CL person
\end{itemize}  
\begin{itemize}
\item Intended: ‘\ldots which song which person?’
\end{itemize}  
\begin{itemize}
\item b. \ldots *[\textit{shenme ge}]_{1} \textit{shi} na-ge ren chang-le (ta)\?
\end{itemize}  
\begin{itemize}
\item \ldots song COP which CL person sing-PERF 3SG
\end{itemize}  
\begin{itemize}
\item Intended: ‘\ldots (for) what song, which person is it that sang it?’
\end{itemize}  

Moreover, idiomatic reconstruction is also possible in multiple sluicing and multiple *wh*-clefts. The idiom chunk in (106) is used again in (127) and (128), for both expressions the intended idiomatic reading is accessible.

(127)  
\begin{itemize}
\item zhe san-ge ren changchang fenbie chi DEM three CL person often respectively eat
\end{itemize}  
\begin{itemize}
\item mou-ge ren-de cu, dan wo bu zhidao ... someone CL person-LNK vinegar, but 1SG NEG know
\end{itemize}  
\begin{itemize}
\item Lit. ‘These three people often eat someone’s vinegar respectively, but I don’t know …’
\end{itemize}  
\begin{itemize}
\item ‘These three people are often being jealous of someone respectively, but I don’t know …’
\end{itemize}  
\begin{itemize}
\item a. \textit{shi} na-ge ren shei-de cu.
\end{itemize}  
\begin{itemize}
\item COP which CL person who-LNK vinegar
\end{itemize}  
\begin{itemize}
\item Lit. ‘which person it is whose vinegar.’
\end{itemize}  
\begin{itemize}
\item Idiomatic: ‘which person whom.’
b. shi na-ge ren changchang chi shei-de
COP which-CL person often eat who-LNK
cu.
vinegar
Lit. ‘which person it is that often eat whose vinegar.’
Idiomatic: ‘which person it is that being jealous of whom.’

(128)  a. ... na-ge ren shi shei-de cu.
    which-CL person COP who-LNK vinegar
    Lit. ‘... which person whose vinegar.’
    Idiomatic: ‘... which person (of) whom.’

b. ... [na-ge ren]₃ shi shei-de cu ta₃
    which-CL person COP who-LNK vinegar 3SG
    changchang chi.
    often eat
    Lit. ‘... (for) which person, whose vinegar it is (s)he often
eat.’
    Idiomatic: ‘... (for) which person, of whom it is that (s)he
    often being jealous.’

Switching the subject and the object wh-phrases raises problems
in sluicing as in (126-a) because it destroys the required Information
Structure. The relevant full version of wh-cleft can only receive a lit-
eral interpretation but fails in accessing the idiomatic reading, which,
in turn, suggests that the pre-shi-position is associated with a base-
generated element.

(129) ... shei-de cu shi na-ge ren (ta) changchang
    who-LNK vinegar COP which-CL person 3SG often
    chi.
    eat
    Lit. ‘... (for) whose vinegar, which person is it that (s)he often
    eat.’
    ??Idiomatic: ‘... (for) whom, which person it is that is jealous
    of.’

Furthermore, as mentioned in Chapter 2, Mandarin multiple sluic-
ing is subject to the clause-mate condition. A parallel is found in
which the remnant appears with a middle-shi, as in (131). The multi-
ple sluicing construction (130-a) is bad as expected, given the viola-
tion of the clause-mate condition, whereas the wh-cleft is acceptable. I
argue that this is because the covert wh-movement is applied to derive
multiple sluicing with this word order, which is clause bounded and
blocks the movement of (yu) na-ge jiaoshou ‘(with) which professor’
to a position out of the embedded clause. More details about covert
wh-movement will be offered in Chapter 5.
(130) (zheli) **mei-ge xuesheng** dou shengcheng mali yu here every-CL student DOU claim Mary with **yi-wei jiaoshou** jiaotan-guo, dan wo bu zhidao ... one-CL professor talk-EXP but 1SG NEG know ‘Every student here claimed that Mary has talked to a professor, but I don’t know ...’

a. "shi na-ge xuesheng (yu) na-ge jiaoshou.
   COP which-CL student with which-CL professor
   Intended: ‘Which student (to) which professor.’

b. shi na-ge xuesheng shengcheng mali (yu)
   COP which-CL student claim Mary with na-ge jiaoshou jiaotan-guo.
   which-CL professor talk-PERF
   ‘Which student it is that claimed that Mary has talked to which professor.’

(131) a. ... "na-ge xuesheng shi (yu) na-wei jiaoshou.
   which-CL student COP with which-CL professor
   Intended: ‘... which student (to) which professor.’

b. ... "[na-ge xuesheng]1 shi (yu) na-wei
   which-CL student COP with which-CL jiaoshou (ta1) shengcheng mali yu na-ge
   professor 3SG claim Mary with which-CL jiaoshou jiaotan-guo.
   professor talk-PERF
   Intended: ‘... (for) which student, (to) which professor it
   is that (s)he claimed that Mary has talked to.’

(132) wo renshi yi-ge [song-le mei-ge haizi liwu-de]
   1SG know one-CL give-PERF every-CL child gift-LNK laoshi1, dan wo bu jide ... teacher but 1SG NEG remember
   ‘I know a teacher who gave a gift to each child, but I cannot remember ...’

a. shi na-ge haizi na-ge liwu.
   COP which-CL child which-CL gift
   ‘which child which gift.’

b. shi na-ge haizi laoshi song-le na-ge liwu.
   COP which-CL child teacher give-PERF which-CL gift
   ‘which child it is that which gift the teacher gave.’

(133) a. ... na-ge haizi shi na-ge liwu.
   which-CL child COP which-CL gift

When the two *wh*-phrases originate from the same clause, as in (132), the sluicing and *wh*-clefts are both grammatical.
When the remnant consists of two \textit{wh}-adjuncts, the alignments can also be detected. For example, (134) is construed to require a pair-list reading between locations and times, which are asked via \textit{wh}-adjunct phrases. As listed in (134-a) to (134-d), the remnants with either \textit{shi} in the initial position or middle position are grammatical, and swapping the positions of the two \textit{wh}-adjuncts does not create a problem, which is expected, since Superiority is not active with \textit{wh}-adjuncts. Crucially, all the expressions in the form of a \textit{wh}-cleft are also grammatical.

\begin{quote}
(134) Leita-tu keyi xianshi suizhe yun-de Radar-chart can show according to cloud-LNK yidong xiayu-de difang. Wo xiang zhidao ... movement rain-LNK place sSG want know 'The radar chart can demonstrate the location where it rains based on the movement of the clouds. I wonder ...'

\begin{enumerate}
\item a. shi shenme-difang shenme-shihou (xiayu-le).
\textit{COP what-place what-time rain-PERF}
'in what place at what time.'
'in what place it is that it rains at what time.'
\item b. shi shenme-shihou shenme-difang (xiayu-le).
\textit{COP what-time what-place rain-PERF}
'(at) what time in what place'
'(at) what time it is that in what place it rains.'
\item c. shenme-difang shi shenme-shihou (xiayu-le).
\textit{what-place \textit{COP what-time rain-PERF}
'in what place at what time'
'(for) in what place, at what time it is that it rains.'
\item d. shenme-shihou shi shenme-difang (xiayu-le).
\textit{what-time \textit{COP what-place rain-PERF}
'at what time in what place'
'(for) at what time, in what place it is that it rains.'
\end{enumerate}
\end{quote}

To sum up, this chapter provides adequate empirical data to show a near-perfect parallel between \textit{wh}-clefts and sluicing, in accordance with their distributions, contextual licensing and grammaticality. These
facts are taken as evidence for assuming that *wh*-clefts act as presluices for Mandarin single and multiple sluicing.
DERIVING SLUICING FROM *WH*-CLEFTS

5.1 PROPOSAL

Given the parallelism between sluicing and *wh*-Clefts, I provide a novel analysis of Mandarin sluicing, namely, that it is derived via a clausal ellipsis of such *wh*-Clefts. For single sluicing, I suggest that the clefted pivot is a *wh*-phrase. In the following illustration, the blue dashed line represents the ellipsis site.

(135)  Zhangsan mai-le yi-liang che, dan wo bu zhidao shi
        Zhangsan buy-PERF one-CL car but 1SG NEG know COP
        [shenme che]I [OP1 ta mai-le t1].
        what car 3SG buy-PERF

‘Zhangsan bought a car, but I don’t know which one it is
(that he bought).’
For multiple sluicing, I argue that variations of the remnants are merely slightly different and in effect can receive a unified analysis, i.e., both are derived from a *wh*-Cleft. To be more specific, for the remnant *shi*-wh1-*wh*2, the first *wh*-remnant is the pivot and the second one is base-generated in the cleft clause and undergoes a covert *wh*-movement, which is visible under the ellipsis (Abels & Dayal 2023). And in this case, the landing site of the moved *wh*-remnant is right above the ellipsis site.

\[ (137) \] ... *shi* [na-ge ren]1 [OP1 [na-shou ge]2 [*ta ta] COP which-CL person which-CL song 3SG chang-le t2]]. sing-PERF

‘which person it is who sang which song.’
For the remnant *wh1-shi-wh2*, the first *wh*-phrase is base-generated above IP, which can be answered with a topic, and the second is the pivot, where no movement operations take place.

\[
\text{(139)} \quad \ldots [\text{na-ge ren}_1 \ \text{shi} \ [\text{na-shou ge}_2 [\text{OP}_2 [\text{ta}_1) \\
\ldots \text{which-CL person COP which-CL song}_3 \text{SG} \\
\text{chang-le} \ t_2)].} \\
\text{sing-PERF} \\
\text{‘... (for) which person, which song it is that he sang.’}
\]
In terms of multiple sluicing, I claim that the variation of the distribution of *shi* is trivial and the two variations can actually receive a unified analysis: (141-a) gives rise to the remnant *shi*-wh1-wh2, like (137), where the first *wh*-remnant is in the pivot position and the second one undergoes covert *wh*-movement, and (141-b) results in wh1-shi-wh2, as in (139), where the first *wh*-phrase is base-generated high in the cleft and the second one is the pivot.

\[(141)\]
\[
\begin{align*}
(a) & \quad [IP \ pro \ COP \ wh_1 \ [CP \ OP_1 \ wh_j \ [IP\ldots \ t_i \ldots \ t_j \ldots]]]
\\
(b) & \quad [CP \ wh_1 \ [IP \ pro \ COP \ wh_j \ [CP \ OP_1 \ [IP\ldots(RP_1)\ldots \ t_j \ldots]]]]
\end{align*}
\]

The idea of covert *wh*-movement is borrowed from Abels & Dayal (2023) to explain the presence of the additional *wh*-remnant in mul-
multiple sluicing. According to them (and more references therein), this movement represents a normal syntactic movement operation. In other words, it takes place in syntax and is subject to Spell-out rules of a movement chain. In particular, under the single cycle model of syntax with a copy theory of movement, the spelt-out copy should be the lowest strong copy of an overt movement chain and the lowest available copy of a covert chain. Elision may feed covert movement when the ellipsis site is higher than the lowest copy but lower than the second lowest one, as it in effect makes the latter the lowest available copy on the chain, making the covert movement visible.

Take English as an example. English being a single wh-movement language, in multiple wh-questions: the first wh-phrase undergoes normal overt movement because its landing site - SpecCP - is strong, which allows a copy to be spelt-out in this position, resulting in wh-phrase being pronounced ex-situ. Whereas the movement of the second one is covert because the landing site for it to be interpreted as interrogative is weak, where the copy should not be spelt out as there is a lower available one in situ. Hence, wh-phrase is pronounced in the base position. However, in the environment of sluicing, as represented in (142), the lowest copy of the second wh-phrase is inside the ellipsis site and is deleted, which turns the higher one in the weak position into the only and lowest available copy. By spelling out that copy, the covert movement is overt under the ellipsis, and multiple sluicing is achieved successfully.

(142)
Put differently, the covert \( wh \)-movement is universal to natural human languages regardless of its \( wh \)-system (in-situ or otherwise), and it can be overt under ellipsis. Rather than a special case of overt movement, this mechanism shares a similarity with another typical instance of covert movement, that in quantifier raising. In the latter case, the universal quantifier covertly moves to a higher position which is right above the existential quantifier that it scopes over. As this landing site is weak, the universal quantifier is still pronounced in the base position, thus there are no changes in word order. Both covert \( wh \)-movement and quantifier raising are subject to clause boundary, which naturally gives rise to the clause-mate condition for multiple sluicing. As exemplified in (143), the two \( wh \)-remnants originate from different clauses and multiple sluicing is not available. Given that covert \( wh \)-movement is subject to clause boundary, this is expected since the second \( wh \)-phrase mit welchen Professor ‘with which professor’ need to move out of the embedded CP to land out of the E-site, which violates the locality constraint.

\[
\text{(143) } \quad \text{‘Vor jedem Vorfall hat ein Student behauptet, dass}
\]
\[
\text{Maria mit einem Professor geredet hatte, aber ich weiss}
\]
\[
\text{Maria with a professor talked had but I know}
\]
\[
\text{nicht welcher Student mit welchem Professor.}
\]
\[
\text{not which student with which professor}
\]
\[
\text{‘Before each incident a student claimed that Maria had talked}
\]
\[
\text{with a professor, but I don’t know which student with which}
\]
\[
\text{professor.’}
\]
\[
\text{(Abels \& Dayal 2023:5)}
\]

Now, turning back to Mandarin. As discussed in Chapter 2 and 4, Mandarin multiple sluicing is subject to the clause-mate condition as well. The relevant examples are repeated here: in (144), the two \( wh \)-remnants are from different clauses, there is a contrast of acceptability in sluicing and \( wh \)-Clefts.

\[
\text{(144) } \quad \text{(zheli) mei-ge xuesheng dou shengcheng mali zuo}
\]
\[
\text{yucui li yu hua feng zuo}
\]
\[
\text{yi-wei jiaoshou jiaotan-guo, dan wo bu zhidao …}
\]
\[
\text{one-CL professor talk-EXP but 1SG NEG know}
\]
\[
\text{‘Every student here claimed that Mary has talked to a professor, but I don’t know …’}
\]

a.  ‘shi na-ge xuesheng (yu) na-ge jiaoshou.
\]
\[
\text{COP which-CL student with which-CL professor}
\]
\[
\text{Intended: ‘Which student (to) which professor.’}
\]
5.3 A CP ELLIPSIS

Adopting the covert wh-movement operation in turn provides a clue about the ellipsis site. Since the movement of the second wh-remnant has to be very local, the ellipsis site should be lower than the relative clause CP, and the second remnant land right above the ellipsis site. This assumption can be tested with examples that have some element in the cleft clause being fronted to the left periphery domain, e.g., topicalisation or focalisation. If the assumption here is correct, there should be some other non-wh-element present between the two wh-remnants in shi-wh-wh. This prediction is borne out. Suppose a scenario where Zhangsan and Lisi hold their birthday party on the same day, and their friends A, B and C brought them gifts. (145-a) is a grammatical multiple sluicing construction, inquiring about the pairing of friends and gifts to Zhangsan, with the name Zhangsan being fronted as a contrastive topic. In contrast, having Zhangsan following the second wh-remnant causes ungrammaticality, as the bad example (145-b) shows. In addition, the proposed underlying wh-Cleft is given in (145-c), which shows that it is grammatical to topicalise elements inside the cleft clause.

(145)  Wo zhidao tamen fenbie song-le shenme-liwu gei rSG know they respectively give-PERF what-gift to Lisi, dan wo bu zhidao ...
Lisi but I not know ...
‘I know they gave what gift to Lisi, respectively, but I don’t know ...’

a. shi na-ge ren (gei) Zhangsan shenme liwu.
COP which-CL person to Zhangsan what gift
‘which person, (as for to) Zhangsan, what gift.’
b. ‘shi na-ge ren shenme liwu (gei) Zhangsan.
   COP which-CL person what gift to Zhangsan
   Intended: ‘which person what gift (as for to) Zhangsan.’

c. shi na-ge ren, (gei) Zhangsan, song-le
   COP which-CL person to Zhangsan give-PERF
   shenme liwu (gei ta₁).
   what gift to 3SG
   ‘which person is it that, (as for to) Zhangsan, gave what
gift (to him).’

The corresponding structure of (145-a) is given in (146).
It is worth mentioning that the phenomenon of reserving a *wh*-phrase together with a non-*wh*-phrase is referred to as Sluicing-Stripping in Kotek & Barros (2018). Mainly focusing on Spanish, they argue that non-*why* *wh*-stripping is derived via *wh*-movement followed by rightward movement of the focused non-*wh*-element and clausal ellipsis. However, as has been shown above, no additional assumption like rightward movement is needed for Sluicing-Stripping in Mandarin based on the cleft analysis of sluicing.

Note that the CP ellipsis also predicts that such topics follow the *wh*-remnant in single sluicing and *wh-shi-wh* multiple sluicing. However, neither case follows the expectation. Imagine a situation in which the speaker knows that Zhangsan and Lisi each bought a new car, and utters the single sluicing sentences in (147). As the ungrammatical (147-a) suggests, a contrastive topic should not follow the remnant. And the *wh*-Cleft counterpart in (147-b) is strongly degraded. What can be said is that the sluicing in (147-c), where the contrastive topic Lisi is fronted straight to the position preceding *shi*, and the corresponding *wh*-Cleft is also grammatical.

(147) wo zhidaozhangsan mai-le shenme che, dan wo bu
     1SG know Zhangsan buy-PERF what car but 1SG NEG
     zhidaowho
     ‘I know what car Zhangsan bought, but I don’t know ...’
   a.  *shi  shenme che Lisi.
       COP what car Lisi
       Intended: ‘what car (as for) Lisi.’

   b.  ??shi  shenme che, Lisi, ta  mai-le.
       COP what car Lisi 3SG bought
       ‘what car it is, (as for) Lisi, that he bought.’

   c.  Lisi, shi  shenme che.
       Lisi COP what car
       ‘(as for) Lisi, what car.’

   d.  Lisi, shi  shenme che (ta) mai-le.
       Lisi COP what car 3SG buy-PERF
       ‘(as for) Lisi, what car it is that he bought.’

A similar pattern is also found with multiple sluicing with *wh-shi-wh*. In the same scenario as (145), the *wh-shi-wh*-contrastive topic is not possible, as in (148-a). And the *wh*-Cleft counterpart is degraded as well. Again, fronting the contrastive topic to the left periphery of the entire cleft sentence is acceptable, for both sluicing and *wh*-Clefts. Though I do not have a clear answer to the phenomenon observed here, the data strongly support the parallelism between sluicing and *wh*-Clefts built in Chapter 3.
(148) Wo zhidao tamen fenbie song-le shenme-liwu gei
1SG know they respectively give-PERF what-gift to
Lisi, dan wo bu zhidao ...
Lisi but I not know
'I know they gave what gift to Lisi, respectively, but I don’t
know ...'

a. *na-ge ren shi shenme liwu (gei) Zhangsan.
which-CL person COP what gift to Zhangsan
Intended: 'which person what gift, (as for to) Zhangsan.'

b. ??[na-ge ren]_{i} shi shenme liwu, (gei) Zhangsan,
which-CL person COP what gift to Zhangsan
ta_{i} song-le.
3SG give-PERF
Intended: '(for) which person, what gift it is that, (as for
to) Zhangsan, (s)he gave.'

c. (gei) Zhangsan, na-ge ren shi shenme liwu.
to Zhangsan which-CL person COP what gift
Intended: '(as for to) Zhangsan, which person what gift.'

d. (gei) Zhangsan_{j}, [na-ge ren]_{i} shi shenme liwu
to Zhangsan which-CL person COP what gift
(ta_{j}) song-le (gei ta_{i}).
3SG give-PERF to 3SG
'(as for to) Zhangsan, (for) which person, (s)he gave
what gift (to him).'
CONCLUSION

6.1 SUMMARY

This dissertation has foremost argued for an approach that derives Mandarin sluicing through applying clausal ellipsis on a wh-cleft. Expanding Reeve’s (2012) bi-clausal structure of English it-clefts to Mandarin clefts, I contend that Mandarin wh-clefts allow multiple wh-phrase and can achieve the pair-list reading, and more importantly, that they pattern with sluicing, which could serve as the pre-sluice. The scheme for single sluicing is given in (149), but the cleft account indeed shows its advantage and significance in capturing the variations of the distribution of shi ‘be’ in multiple sluicing, exemplified in (150).

\[(149) \quad [\text{IP pro COP wh}_1 [\text{CP OP}_1 [\text{IP… t}_1 …]]]] \]
\[(150) \quad \text{a. } [\text{IP pro COP wh}_1 [\text{CP OP}_1 \text{wh}_j [\text{IP… t}_1 \text{… t}_j \text{…]}]]]
\[(150) \quad \text{b. } [\text{CP wh}_1 [\text{IP pro COP wh}_j [\text{CP OP}_1 [\text{IP…(RP}_1 \text{… t}_j \text{…)}]]]]]\]

As illustrated here, single sluicing involves a pivot wh-phrase and clausal ellipsis. For multiple sluicing, the shi-wh-wh remnant involves a pivot wh1 and covert wh-movement of wh2 followed by clausal ellipsis, whereas the wh-shi-wh has wh1 as base-generated in the left periphery and wh2 as pivot, involving clausal ellipsis.

The current work, first of all, provides new empirical data that suggests the drawbacks of the pro-form account (Adams 2004, etc.) and the focus-movement account (Wang 2002, etc.). The cleft account then provides a novel analysis for the long-standing issue in the derivation of Mandarin sluicing, suggesting that Mandarin does have the type of sluicing that is derived by ellipsis of a wh-question. Beyond providing a neat story for Mandarin sluicing, the discussion in this dissertation suggests that if a (wh-in-situ) language allows multiple wh-phrases in the pivot position and the cleft clause, it might be able to derive sluicing like Mandarin. Furthermore, the analysis in this work follows the prediction of some typological generalisations that correlate the availability of genuine sluicing of the English variety and the wh-system in a given language, showing that as a wh-in-situ language, Mandarin does not have genuine sluicing that involves wh-movement (or other \(\lambda\)-movement to the left periphery, Van Craenenbroeck & Lipták 2013). On the other hand, the cleft account for Mandarin sluicing diversifies the picture of sluicing in wh-in-situ languages, as it is a case of clausal ellipsis of a wh-cleft with complex structure, which is different from what has been assumed in Japanese or Uzbek sluicing (Gribanova
& Manetta 2016), namely, their sluices are reduced-copula sentences, where there is no clausal ellipsis taking place in the derivation.

6.2 OPEN ISSUES

Throughout the dissertation, I have not provided an explanation of the optionality of shi. As was briefly mentioned in Chapter 4, native speakers seem to show alignments in the optionality of shi in sluicing and wh-clefts: in both constructions, shi is obligatorily present when it accompanies with a simplex wh-argument, and optional in cases when the wh-phrase is an adjunct. There are variations among speakers when shi occurs with complex wh-phrases: some found optionality more acceptable than others. Since the parallelism still holds, the issue does not harm the current cleft account, but the specific licensing of the absence of shi calls for further work.

Another issue is about the controversial Mandarin cleft construction and its relatives. I argued in Chapter 3 that the cleft construction that is relevant to the current account does not contain the de morpheme. This analysis is indeed an expansion of W. Paul & Whitman’s (2008) sentence-initial bare shi sentences, which was claimed to be only available to encode subject focus. Additionally, I also argued that the morpheme de is not compatible with wh-clefts. However, there is a potentially challenging construction, which is referred to as shi...de proper in W. Paul & Whitman (2008). As exemplified in (151-a), the expression is treated as a cleft focus pattern, with the post-pivot element as the pivot. And de can co-occur with a wh-phrase in this configuration, as in (151-b). According to W. Paul & Whitman (2008) and Pan & Paul (2016), the sentence-final de here is the head of a non-root CP.

(151)  a. ta shi zai Beijing xue yuyanxue de.
     3SG shi at Beijing study linguistics DE
     ‘It’s in Beijing that he studied linguistics.’
     (W. Paul & Whitman 2008:2)

     b. ta shi zai nali xue yuyanxue de?
     3SG COP at where study linguistics DE
     ‘Where is it that he studies linguistics?’ (To be revisited)

However, this so-called cleft construction does not show the essential semantic properties of the clefts this dissertation concerns. For example, (152-a) entails (152-b), suggesting that the post-copula is not a position associated with an exhaustive reading. To maintain neutrality, I translate the expressions into non-marked plain declarative sentences, though obviously more research is needed on this config-
uration and how this is similar to/different from the clefts in this work.

\[ \text{(152)} \]

a. Zhangsan shi zai Beijing he Shanghai xue
   \[ \text{Zhangsan COP at Beijing and Shanghai study} \]
   \[ \text{linguistics DE} \]
   \[ ‘Zhangsan studies linguistics in Beijing and Shanghai.’ \]

b. ⇒ Zhangsan shi zai Beijing xue yuyanxue de.
   \[ \text{Zhangsan COP at Beijing study linguistics DE} \]
   \[ ‘Zhangsan studies linguistics in Beijing.’ \]

6.3 OTHER ELLIPSIS

In addition to providing a new analysis of sluicing, the current work also sheds light on other ellipsis construction in Mandarin. For instance, the existential construction mentioned in Chapter 3 also allows clausal ellipsis. As exemplified in (153), the existential construction allows clausal ellipsis if we assume that the part *ta mai-le* in (153-a) is a relative CP. This construction also allows further NP ellipsis, as the optional noun head in (153-b) indicates. Investigation into the ellipsis of existential constructions may give a general understanding of clausal ellipsis in Mandarin.

\[ \text{(153)} \]

a. Ta mai-le shu, dan wo bu zhidaoyou
   \[ 3SG buy-PERF book but 1SG NEG know YOU \]
   \[ duoshao(-ben shu) [ta mai-le]. \]
   \[ how.many-CL book 3SG buy-PERF \]
   \[ ‘He bought books, but I don’t know how many books he bought.’ \]

b. Ta mai-le shu, dan wo bu zhidaoyou
   \[ 3SG buy-PERF book but 1SG NEG know YOU \]
   \[ duoshao(-ben shu). \]
   \[ how.many-CL book \]
   \[ ‘He bought books, but I don’t know how many (books).’ \]

The element *shi* is also very frequently used in Mandarin ellipsis expressions. For example, (154-b) resembles the standard English stripping, which obligatorily contains the copula. It might be worth exploring what role the copula plays in such expressions and whether it involves ellipsis.

\[ \text{(154)} \]

a. Susan works at night, and Bill works at night too.

b. Zhangsan wanshang gongzuo, Lisi ye shi.
   \[ Zhangsan night work Lisi also COP \]
   \[ ‘Zhangsan works at night, and Bill too.’ \]


