

國立臺灣師範大學文學院英語學系

碩士論文

Department of English, College of Liberal Arts

National Taiwan Normal University

Master's Thesis

漢語中的動詞懸置空補語

Verb-stranding Null Complements in Mandarin Chinese



陳曉微

Chen, Hsiao-Wei

指導教授：颯楊 博士

Advisor : Gerardo Fernandez-Salgueiro, Ph.D.

中華民國 111 年 1 月

January 2022

Acknowledgements

This thesis would not be possible without the assistance of some professors, their insights and experience in Syntax earned my utmost esteem.

I want to thank my advisor, Gerardo Fernandez-Salgueiro, for exploring the V-stranding constructions with me. Though Chinese is not his native language, he offered quite a few clever advice on my choice of data. I thank him for granting me much freedom during the development of the thesis, and for being always responsive to my questions. His support and words of encouragement have played a crucial role in helping me press on.

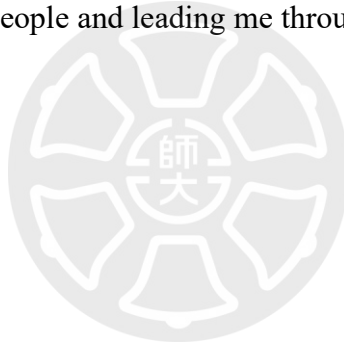
I am deeply in debt to Jen Ting, who guided me into the world of Syntax in college. I really appreciate her patience and selfless devotion to discuss my research interest from the very beginning, which set my feet on the path of Syntax. A certain part of my research rooted from those meetings.

I owe much as well to Hsiao-Hung Iris Wu, whose research efforts on the mechanism of ellipsis have been well-recognized. It is generous of her to provide her works for my references and discuss with me despite her heavy schedule. I would also like to express my gratitude to Chi-Ming Louis Liu, who served as the external examiner in my defense committee. His invaluable advice and critical feedback on my logical defects have ameliorated the thesis to some extent.

I thank the English department of NTNU, for its seven-year cultivation and for providing me the opportunity to try manifold things. I would not be the ‘me’ today without the solid trainings and the excellent curriculum. The professors who have taught me have my earnest respect. The list including, but not limited to, Jing-Lan Wu Joy, Jen-i Li and Hsi-Yao Su.

Special and warm thanks to my peers Sherry, Lily and Kun-yi for their accompany across the semesters. I always cherish the days when we sat in a café, burying ourselves in reading papers. I thank Robin and Silvia, for their comfort and rapport along the way. Thank Nikki for sharing her life stories, which let me know I am not alone. Thank Eliot for informing me of crucial information during the last period of time.

Next, my gratitude goes to Shang-Shuan Yang, for always being there for me. He made my years in graduate school one of the most remarkable memories in my life. Thank Ms. Yeong-ling Yang for proofreading the draft. It was so generous of her to sacrifice her holiday on it. Liability of any remaining mistakes are mine. I also acknowledge and thank my parents for their financial support and their insistence that I finish the degrees. Finally, thank God for bringing me these nice people and leading me through a journey full of wonders.



漢語中的動詞懸置空補語

摘要

作為論元刪除分析的延伸，此論文探究漢語動詞懸置結構中的空補語，並將其分類為名詞型、動詞型以及句子型。有一個現象是值得關注的，即於動詞懸置的空缺中，先行詞的某部份意思無法被理解到。從語意拷貝(LF-copying)的角度而言，先行詞中的語義只被部分複製到刪略位置。根據此現象，我發現 (1)對於名詞性空補語，指示限定詞的存在與否可以預測數量附加語(adjunct)是否被包含在空缺中；(2)動詞性空補語並無法存在。

不論是否有明顯的主詞、或是空主語 (PRO)，句子型空補語大多為 CP。根據 Radford (2004) 的系統，這些補語的動詞為控制動詞或義務情態詞。只有少部分句子型空補語為 TP，即例外格位標記動詞 (ECM verbs) 的補語。針對句子型空補語有以下觀察：(1)所懸置的動詞不受 Goldberg (2015) 的相同動詞要求 (Verbal Identity Requirement) 所限制；(2)其和簡答句的對應性；(3)和時態標記符號的並存。最後，此文也探討了句子型空補語為空指代補語 (null complement anaphora) 的可能性。抽取測試 (extraction test) 以及其他證據指向一個深層回指 (deep anaphora) 和淺層回指 (surface anaphora) 並存於句子型空補語中的狀況。總體而言，基於動詞懸置空補語的複雜性，此文認同以綜合的分析來處理之。

關鍵詞：動詞懸置結構、論元刪略、語意拷貝、空指代補語、空主語

Verb-Stranding Null Complements in Mandarin Chinese

Abstract

As an extension of the argument ellipsis approach, this thesis surveys Verb-stranding null complements in Mandarin Chinese, which are categorized as: nominal, verbal, and clausal. It is shown that the interpretations of some materials may be left-out of the V-stranding gap. From the LF-copying perspective, logical forms of the antecedent are only partial reduplicated to the ellipsis site. With this phenomenon, I argue (a) for the null *nominal* complements that, the presence of demonstrative determiners predicts the in/exclusion of quantity adjuncts in the gaps and (b) the nonexistence of the null *verbal* complements.

In addition, the null *clausal* complements are recognized mainly as CPs, either with an explicit subject or a PRO. They are headed by control lexical verbs or deontic modals, pace Radford (2004). Only a limited number of null clausal complements are TPs, i.e., those headed by ECM verbs. Some features of null CP complements are observed: (a) the freedom of stranded V from Goldberg's (2015) Verbal Identity Requirement; (b) the analogy to short answers; (c) the co-occurrence of aspectual markers. Lastly, the possibility of the CP gaps being null complement anaphora (the so-called NCA) is also considered. With extraction test and other evidence, I conclude that the V-stranding null clausal complements are comprised of a fusion of deep/surface anaphora. Altogether, this thesis comes to support an integrated approach to V-stranding complement gaps.

Keywords: *V-stranding constructions, argument ellipsis, LF-copying, NCA, PRO*

Glossary

Abbreviations of Glossing:

ASP = aspect

CL = classifier

DEF = definite

PART = particle

PASS = passive

PERF = perfect

PROG = progressive

Q = question marker

In-text abbreviations:

AE = argument ellipsis

ECM = exceptional case marking

LF = logical forms

NCA = null complement anaphora

PF = phonological forms



Table of Contents

Acknowledgements	i
Chinese Abstract	iii
English Abstract	iv
Glossary	v

[Chapter 1. Introduction, Goals, and Outline](#) 1

1.1 Missing Nominals	2
1.2 Setting Object Gaps apart from Null Subjects	4
1.3 The Debate on Ellipsis Structures	7
1.4 Research objectives and organization	9

[Chapter 2. Previous Analyses on Null Complements](#)10

2.1 Topic-variable	10
2.2 VP ellipsis	12
2.3 Truly empty categories	14
2.4 Argument ellipsis	14
2.5 Cheng's (2013) Integrated View	19

[Chapter 3. Null Complements with Different Syntactic Categories](#) 22

3.1 Missing Nominal Complements	22
3.2 Missing VP Complements after a Stranded V	26
3.2.1 Chinese Serial Verb Constructions	26
3.2.2 Voice mismatch	30
3.3 Missing CP/TP complements after a stranded V	32

3.3.1	Not TPs, but CPs - considering PRO	32
3.3.2	Three Characteristics of null clausal complement	37
3.3.2.1	The assistance of aspectual markers	37
3.3.2.2	The parallel with short answers,	40
3.3.2.3	Verbal Identity Requirement	41
3.3.3	Another possibility: null complement anaphora	45
 Chapter 4. Conclusion		52
 Cited works		54



Chapter 1. Introduction, Goals, and Outline

Null elements are common in languages. When certain semantic elements are already acknowledged in a conversation, they may not be phonetically realized. The deleted unit can be a noun, a verb, a phrase or something that is not even a constituent. For years, syntacticians have constructed theories to explain the reduction (e.g., PF-deletion, LF-copying, catenation), to categorize null elements (into gapping, sluicing, stripping, ellipsis, etc.) and to generalize the licensing conditions. Reduction mechanisms in Chinese have been reported to include VP-ellipsis, answer ellipsis, N-ellipsis and the fairly common zero anaphora (Osborne and Liang, 2015). Among the manifold elliptical constructions, this thesis narrowly focuses on a kind that strands a V head at the end of the sentence and deletes what follows. The data is comprised of two contrasted clauses (may or may not be in coordination). Some elements in the first clause serve as the antecedent for their deleted counterpart in the second clause.

[S [V [O]]] **CONJ** [S [V {Ø}]]

The V-stranding complement gaps are common in Chinese but not in English. As (1) demonstrates, English disallows stranding a Verb and unpronounced its complement. Rather, it requires a do-support to replace the elided VP, or at least a pro-form of the complement on the surface form. Aoun and Li (2008: 262) attributes the contrast to the Visibility Condition in English, which requires the accusative case to be explicitly realized. They assume that such a condition is lacking in Chinese. Though English does have a few V-stranding cases, they are not ellipses at all, but null complement anaphora (NCAs), which would be covered in Chapter 3.

- (1) a. 小明放棄考試，我也放棄了 [e]
 Xiaoming fangqi kaoshi wo ye fangqi le
 give-up exam I also give-up PART
 ‘Ming gave up on the exam, so did I.’
- b. Ming gave up on the exam, and I also *gave up [] / gave **it** up / I **did**, too.

The Chinese V-stranding constructions were first noticed by Chao (1987:134) and Huang (1987,1988,1991). They are sometimes named VPE in disguise or V-stranding VPE (VVPE), being regarded as an extension of VPE. As recognition of these patterns expands to a wide diversity of languages, Landau (2020) terms them as *object gaps*. In the title of the thesis, I call them *null complements* to avoid misunderstandings with empty nominal objects, for the scope of this study actually covers several sizes of null elements. In the following discussion, *null complements* and *V-stranding constructions* bear an equal chance to appear when different aspects of the structure are emphasized.

1.1 Missing nominals

Some languages permit the lack of subjects in a sentence, i.e., subject pro-drop, which goes against the Extended Expletive Principle in English. For instance, null subjects are common in Spanish and Portuguese, as in (2a, b, c), since the verb conjugation reveals enough information about the subject. Pro-drop in Chinese, on the other hand, relies on the conversational contexts to recover the unnamed subject, as in (3).

- (2) English gloss ‘[I]-went shopping.’

- a. Fui de compras *Spanish*
 b. Fiz compras *Portuguese*

- (3) Daughter: ‘媽媽妳要去哪?’ Mama ni yao qu na
 Mom you will go where
 (‘Mom, where are you going?’)

Mom: ‘去買菜’ qu mai tsai
 go buy food ingredients
 (‘[I]-am going to do grocery shopping.’)

The issue of missing elements in the object position is more complicated. The complement of a verb head can be a noun (4a), an infinite clause (b), a finite clause (c), or a CP (d), which may involve a PRO and a series of vacuum layers, or the half of a compound verb as (4e). Many of their syntactic statuses are yet to be identified, which would be one of the duties in this study.

- (4)
- a. 小明放棄考國考，我也放棄考[國考] nominal
Xiaoming fangqi kao guokao, wo ye fangqi kao [guokao]
 give.up take national.exam I also give.up take
 ‘Ming gave up on the exam, so did I.’
- b. 小明放棄考國考，我也放棄了[考國考] infinitive
Xiaoming fangchi kao guokao, wo ye fangchi [kao guokao]
 give.up take national.exam I also give.up
 ‘Ming gave up on the exam, so did I.’
- c. 小明後悔點了牛排，我也後悔了[點了牛排] finite clause
Xiaoming houhui dian le niopai, wo ye houhui le [dian le niopai]
 regret order PERF. steak I also regret PERF
 ‘Ming regretted ordering the steak, so did I.’
- d. 小明猶豫要不要買票，我也在猶豫[要不要買票] CP
Xiaoming youyu yao-bu-yao mai piao, wo ye zai youyu []
 hesitate to-not-to buy ticket I also PROG hesitate
 ‘Ming is hesitating whether to buy a ticket, so am I.’
- e. 小明已經洗了澡，我還沒洗[澡] half of a compound
Xiaoming yijing si le zau, wo hai mei si []
 already take PERF shower I yet not take
 ‘Ming has taken a shower but I haven’t.’

1.2 Setting Object Gaps apart from Null Subjects

Null subjects refer to the noun preceding the verb, as *Xiaoming* in (5a). An object gap can be complements of any syntactic category that are selected by the stranded V, as the verb phrase *kao guokao* ‘take the national exam’ in (5b).

- (5) a. 小明放棄考國考 · [e] 也放棄讀研究所 null subject
Xiaoming fangqi kao guokao , [] ye fangqi du yianjiosho
 give.up take national.exam also give.up study grad.school
 ‘Ming gave up on the exam as well as the master’s degrees’
- b. 小明放棄考國考 · 我也放棄了 [e] object gap
Xiaoming fangqi kao guokao , wo ye fangqi le [——]
 give.up take national.exam I also give.up PERF
 ‘Ming gave up on the exam, so did I.’

Asymmetries between null subjects/objects have been pointed out in Huang (1984), Aoun and Li (2008) and Li and Wei (2014). Firstly, null objects seem to have a narrower distribution, as shown in (6). While the null subject can co-index with the matrix subject *Zhangsan*, the object cannot be implicit. Such an observation is also made in Japanese, Korean and Portuguese.

- (6) a. 張三_i 希望 [e]_i 可以看見李四
Zhangsan xiwang [] keyi kanjian Lisi
 Zhangsan hope can see Lisi
 ‘Zhangsan hopes to see Lisi.’
- b. *張三_i 希望 李四_j 可以看見 [e]_i (Huang, 1984: 538 (22))
**Zhangsan xiwang Lisi keyi kanjian []*
 Zhangsan hope Lisi can see
 (intended) ‘Zhangsan hopes Lisi can see him.’

Another asymmetry considers relative clauses as (7). (7a) is an object relative; (b) is a subject relative. The null nominals in each sentence are bound by the head noun. When the subject and object are both dropped as in (c), the referential relation can only go one way. That is, the (7a) reading. The empty subject is bound by the matrix subject *Miss Li* despite the distance; the empty object is bound by the relative head noun *nanren* ‘man’. Accordingly, Huang decides that null subjects are **pronominals** (*pro*) while null objects are **variables** bound by an invisible topic operator.

(7) 李小姐_i還找不到 (Huang, 1984: 543 (38))

Miss Li_i hai zhao-bu-dau

‘Miss Li hasn’t found -

a. 一個 [她_i 喜歡 *e_k*] 的男人_k

yige ta_i xihuan []_k de nanren_k

a man who she likes.”

b. 一個 [*e_k* 喜歡她_i] 的男人_k

yige []_k xihuan ta_i de nanren_k

a man who likes her.”

c. 一個 [*e_i* 喜歡 *e_k*] 的男人_k

yige []_i xihuan []_k de nanren_k

a man who she likes.”

Thirdly, null subjects are regulated by the Generalized Control Rule (Huang, 1982), which demands empty pronominals to co-index with the nearest c-commanding noun, whereas null objects are not. For instance, the null subject in (8) must refer to the matrix subject *wo* ‘I’. The null object in (8b) can be another entity in the context. (To my native intuition, the object in (8b) can only be elided if it is a nonhuman stuff. It has to be explicit if referring to a person, e.g., *Zhangshan bu xihuan wo* ‘me’ / *ta* ‘him’ / *ta ziji* ‘himself’.) Also, Li and Wei indicates that an indefinite subject cannot be elided, as in (9), while omission of an indefinite object is perfectly acceptable.

- (8) a. *我_i 因為 [e_k 不喜歡張三] 有點失望

Wo_i yinwei []_k bu xihuan Zhangshan youdian shiwuang
 I because not like Zhangshan a bit disappointed
 ‘I am a bit disappointed that [] doesn’t like Zhangsan.’

- b. 我_i 因為 [張三不喜歡 e_k] 有點失望

?*Wo_i yinwei Zhangshan bu xihuan []_k youdian shiwuang*
 I because Zhangshan not like a bit disappointed
 ‘I am a bit disappointed that Zhangsan doesn’t like [].’

(Aoun and Li, 2008: 256 (18))

- (9) *他看到某個客人_i 點了龍蝦，我也看到 [e]_i 點了魚

**Ta kan-dao mou-ge keren_i dian le longxia , wo ye kan-dao*
 he see-PERF one client order PERF lobster I also see-PERF

[]_i dian le yu
 order PERF fish

(intended) ‘He saw a client_i ordering a lobster. I also saw him_i ordering fish.’

(Li and Wei, 2014: 280 (17))

Moreover, Li and Wei report that in (10a), *ta erzi* ‘his (Lisi’s) son’ cannot be dropped as a subject, whereas in (10b) it is allowed to disappear from the object position. (However, I can get the intended meaning from *neither* of the sentences. To me, the second clauses in (10a) and (b) sound that they both have an empty subject that refer to *Lisi*.)

- (10) a. *張三喜歡 [他兒子認識的人]，李四_i 喜歡 [e_i 他兒子不認識的人]

**Zhangsan_i xihuan [ta_i erzi renshi de ren] ,*
 Zhangsan likes his son know people

Lisi_k xihuan [~~ta~~_k ~~erzi~~ bu renshi] de ren
 like not know people

(intended) ‘Zhangsan likes who his son knows. Lisi likes who his son doesn’t know.’

- b. 張三喜歡 [認識他兒子的人] , 李四 , 喜歡 [不認識 e , 他兒子的人]

? *Zhangsan_i xihuan renshi ta_i erzi de ren* ,

Zhangsan likes know his son people

Lisi_k xihuan bu renshi []_k de ren

Lisi like not know people

(intended) ‘Zhangsan likes people who know his son. Lisi likes who doesn’t know his son.’

(Li and Wei, 2014: 281 (19))

The distinguish between null subjects and object gaps might require more convincing empirical support. Yet, it is sufficient for the purpose of this research to be acknowledged that object gaps bear more complexities than null subjects. Also, object gaps cannot be equated with missing nominal complements of a verb; the position can contain complements with more diverse syntactic categories.

1.3 The debate on ellipsis structures

A consistent, unsettled debate has been on whether an unpronounced structure is present at the ellipsis site. The phonological form (**PF**-)deletion view (or, syntactic account) believes an inner structure exists at the Logical Form (LF-)level though the components are not phonologically realized. This group bases their account on the fact that ellipsis sites are found sensitive to movement. Elements in the sites are prohibited to be extracted prior to the deletion. Its proponents include Chung et al. (1995), Sag (1976), Hankamer (1979), Merchant (2001), Chomsky, Lasnik and their successors. For instance, in (1), repeated here as (11), advocates of PF-deletion would suppose a covert structure of the missing *kaoshi* ‘exam’ at the LF-level that allows the semantic meaning to be recovered. The word is simply not phonologically realized.

(11) 小明放棄考試 · 我也放棄 [考試] 了

Xiaoming fangqi kaoshi_k wo ye fangqi [kaoshi]_k le
give-up exam I also give-up PERF
'Ming gave up on the exam, so did I.'

On the other hand, **LF-copying** (or, interpretive approach) considers the ellipsis site to be inherently empty at PF. The position exists at the subcategorization requirement of the head. The meaning for the site is recovered through co-indexing with and copying the antecedent at the LF level. Back to sentence (11), this school of syntacticians would consider the covert *kaoshi* 'exam' to be co-indexed with the overt antecedent, from which the semantic meaning is duplicated. Such an operation need not resort to an invisible syntactic structure at the LF level. When the listener receives the sound of the first *kaoshi* and encounters the object gap shortly after, their minds copy from the first *kaoshi* and interpret the meaning of the vacant site. Advocates of LF-copying include Fiengo and May (1994), Culicover and Jackendoff (2005) and Aoun and Li (2008). Their main evidence is sloppy readings, which is meanwhile the weakness of the PF-deletion analysis.

Another is the **pragmatic account**, which proposes that an antecedent is not necessary and that listeners rely on the discourse to reconstruct the meaning (Hardt, 1993). The view will assume the object gap in the second conjunct in (11) to be truly empty at both PF- and LF-level. The formerly stated *kaoshi* serves as an old information (a topic) to foreshadow the coming of the second *kaoshi* (focus) even though the latter is not uttered. Still other people take an **integrated** position, e.g. Kehler (2002), Merchant (2013) and Chung (2013).

This thesis leans to the LF-copying view. It is an extension of the Argument Ellipsis approach, which is distinguished from VPE based on the evidence of the exclusion of adjunct. LF-copying can easily explain why an adjunct in the antecedent phrase cannot be interpreted from the complement gap. (It is not duplicated.) By contrast, PF-deletion would

have difficulty explaining why the adjunct cannot be interpreted from the gap. It is deleted not only at the phonological-form level, but also the logical-form level. The incomplete recovery of meaning at the gap is also observed on adjuncts of nominal complements and the second action of a serial verb construction. Therefore, LF-copying would be the underlying presumptions in the following discussion.

1.4 Research objectives and organization

Chinese V-stranding constructions have received insufficient attention, compared to Aux-stranding structure. Even in the few research on V-stranding data, the complement gaps of different syntactic category are all covered under the umbrella term ‘argument’. There is thus a need to identify them respectively. V-stranding gaps in serial verb paradigms have also been left out of the discussion despite their frequency in Chinese. Hence, the objectives of this study are (a) to identify the respective complement of different syntactic category and (b) to supply empirical support to the argument ellipsis (AE) account. The thesis is arranged as follows. Chapter 2 reviews Hankamer and Sag’s (1976) deep/surface anaphora framework and Cheng’s (2011) application of it to the issue of V-stranding gaps. Chapter 3 provides an extensive discussion on null nominal, verbal and clausal complements. Relevant issues are also considered, e.g., voice mismatch, PRO, control constructions and null complement anaphora. Section 4 concludes the research and marks its contributions.

Chapter 2. Previous analyses on Null Complements

2.1 Topic-variable

Some people may want to adopt Huang's (1982, 1984) topic-variable account to the issue of V-stranding construction, in which null objects are regarded as variables bound by a topic NP. They may compare the gap-antecedent relation in (12b) with the topic-variable relation in (12a).

- (12) a. 那個人_i · 李四說他不認識 []_i (Huang, 1984:542)
na-ge ren_i , Lisi shou ta bu renshi []_i
DEF person say he not know
'The man, Lisi said he didn't know.'
- b. 張三說他不認識那個人_i · 李四也說他不認識 []_i
Zhangshan shou ta bu renshi na-ge ren_i , Lisi shou ta ye bu renshi []_i
say he not know DEF person say he too not know
'Zhangshan said he didn't know the man. Lisi also said he doesn't know him.'

This analysis cannot avoid the doubt that the antecedent phrase does not seem prominent enough to be a topic, as indicated by Wu (2016). Besides, Li and Wei (2014:277) argue against the topic-variable account, based on cases of null complements in syntactic environments where topicalization should fail. Their references acknowledge that a topic cannot be indefinite nouns (Li and Thompson) and topicalization must be sensitive to island conditions.⁵ Following the topic-variable account, if topicalization is forbidden in a sentence, there should not be gaps.

⁵ Li and Wei's examples of the constraint on indefinite NPs to be topicalized

- i. *三個學生_i · 我看見了 e_i
**san-ge xueshen_i , wu kanjian le []_{i/k}*
(intended) 'Three students, I saw [].'
- ii. 那三個學生_i · 我看見了 e_i
na san-ge xueshen_i , wu kanjian le []_{i/k}
'The three students, I saw [].'

However, Li and Wei raise (13), in which indefinite NPs are omitted in the second clause, and (14), in which the null object is insensitive to island conditions.

- (13) a. 他送給一個男孩一雙鞋 · 我則送給一個女孩 []
ta song gei yi-ge nanhai yi-shuang xie , wo ze song gei yi-ge nuhai []
 he give to a-CL boy a-pair shoes I but give to a-CL girl
 ‘He gave a pair of shoes to a boy. I gave (a pair of shoes) to a girl.’
- b. 他送給一個男孩一雙鞋 · 我則送 [] 一頂帽子
ta song gei yi-ge nanhai yi-shuang xie , wo ze song [] yi-ding maozi
 he give to a-CL boy a-pair shoes I but give a-CL cap
 ‘He gave a pair of shoes to a boy. I gave (him) a cap.’
- (14) ? *zhe-ge xueshengj hen hao, wo mei jian-guo [e_i bu xihuan e_j de] laoshi_i*
 this-CL student very good I not see-PERF not like teacher
 ‘This student is very good. I haven’t see teachers who do not like (him).’

Still, their argument is not firmly grounded. (14) can be rejected by most native speakers of Mandarin. Though the grammaticality of (13) is less questionable, the premise that indefinite nouns cannot be topicalized can be challenged by (15). These cases are common in describing one’s maximum ability to do something. Therefore, Cheng (2013) considers the necessity to make a distinction of definiteness within the topic-variable account, which is covered at the end of this chapter.

- (15) a. 一輛車_i · 我買得起 e_i
yi-liang che_i , wu mai-de-qi []_i
 one-CL car I buy-DE-afford
 ‘I can afford a car.’
- b. 兩碗麵_i · 我吃得完 e_i
liang-wan mian_i , wu chi-de-wan []_i
 two-CL noodle I eat-DE-over
 ‘I can finish two bowls of noodles.’

Rather, Huang (1988) himself realizes an insufficiency of the topic-variable account on mixed readings. The missing object in the second clause of (16) contains an ambiguous possessive *tade* ‘his/her’. It can be interpreted as referring to the close subject Mary (the so-called *sloppy reading*), or to the far subject John (*strict reading*), in which clause the antecedent of the gap is located. The topic-variable account can only explicate the second interpretation.

- (16) *John_k kandao-le tade_k shouji, Mary_i ye kandao-le [tade_{k/i}-shouji].*

John see-PERF his phone Mary also see-PERF

'John_i saw his cellphone, and Mary_j also saw his_i/her_j cellphone.'

2.2 VP ellipsis

Thus, Huang (1988,1991) turns to VP ellipsis, which he has established earlier for Chinese Aux-stranding patterns as (17). In sentences without an auxiliary at T, English does not strand the verbs straightforwardly, but inserts the auxiliary *do* to the T head and licenses the VP ellipsis, as in (18b). Since Chinese does not have *do*-support, Huang proposes that the verb *xihuan* 喜歡 operates as ‘do support’ and raises to T, before ellipsis applies to its complement, which he regards not as a null noun, but a null VP (1988: 288), as in (18a).

- (17) John 會出席這場會議 · Bill 也會 [VP].

John hui chuxi zhe-chang huiyi, Bill ye hui []

will attend this-CL conference also will

‘John will attend the conference, and Bill will [], too.’

- (18) a. John 喜歡這本書 · 但 Bill 不喜歡 [VP].

John xihuan zhe-ben shu, dan Bill bu xihuan []

like this-CL book but not like

‘John likes this book but Bill doesn’t.’

- b. John likes this book but Bill doesn’t [VP].

One of the major supports for this analysis is that the Chinese V-stranding construction displays the strict/sloppy ambiguity, a typical characteristic of VP ellipsis across languages. Particularly, a complex sentence like (19) can distinguish a null nominal object from a null VP. If the V-stranding gap is a nominal, an additional sloppy interpretation may arise that ‘Lisi saw Xiaoming’s mom’. On the other hand, if the gap contains a VP, there should be only two interpretations (of ‘*tade mama*’ referring to Zhangshan or Lisi).

- (19) 張三_i 看見了他_i 的媽媽 · 小明知道 [李四_k 也看見了[e_{i/k}]]
Zhangshan_i kanjian le ta_i-de mama , Xiaoming_j zhidao [Lisi_k ye
 see PERF his mother know too

*kanjian le []_{i/k/*j}*
 see PERF

 ‘Zhangshan_i saw his mom, and Xiaoming knew [Lisi_k did
 [~~see his-#k-mom~~], too].’ (Huang, 1991:(42))

Pace Huang, Li (2002) also concerns the movement of V, but to the *v* head, as a conservative adaptation. The verb movement analysis is not typologically unlikely since Sailor (2009: 59-62) also proposes V-to-*v* movement for Persian, and Gribanova (2013) suggests raising of V to an additional functional structure between *v*P and TP for Russian. Both languages disallow V-to-T movement.

Yet, Huang and Li risk conflicting with the mainstream view that Chinese lacks the French-like V raising. This is also the main criticism Otani and Whitman (1991) face when they extend Huang’s VPE analysis to V-stranding structures in Japanese and Korean.

2.3 Truly empty categories

A different account is supplied by Aoun and Li (2008), who maintain that the postverbal position is truly empty. They debate against several possible empty categories in the Government and Binding framework. **VP ellipsis** is ruled out since the ellipsis site does not include adjuncts, which would be exemplified later. The option of **variables** is discarded because the gap is not subject to island conditions. It cannot be an **empty pronoun** (*pro*), either, since two rules conflict here. As an empty category, a *pro* should follow the Generalized Control Rule in co-indexing to the matrix subject. As a pronoun, it should obey Binding Principle B and be free from any binding relation in the domain. They further deny the vacant position to be **NP traces** since no NP movement is involved. The position is postulated to be syntactically empty and only exist to satisfy the subcategorization requirement of the verb head. In turn, Aoun and Li advocate the LF-copying analysis and make Chinese a case that permits the verb complement to be null, based on a well-formedness Visibility Condition. The next section would offer a piece of evidence against the LF-copying.

2.4 Argument ellipsis

Aoun and Li (2008) miss one variation of the PF-deletion in their debate. That is, **argument ellipsis** (henceforth **AE**), an emerging wave of re-analyzing V-stranding complement gaps in these two decades. It originated from studies on East Asian languages and spread to a wide variety of languages, e.g. Portuguese, Russian, Polish, Greek, Hindi, Hebrew, as discussed in Landau (2020).⁶ It distinguishes V-stranding null complements from VP ellipsis based on the exclusion of adjuncts. As shown in Aoun and Li's examples in (20), the

⁶ For Japanese, Hoji (1998), Kim (1999), Oku (1998), Saito (2004, 2007). For Chinese, Chao (1987), Huang (1987, 1991).

underlined adjuncts, such as manner adverb phrases, frequency phrases and duration phrases, cannot be interpreted from the ellipsis site. Somehow they are absent at the LF-level.

- (20) a. 我見過他三次，他們也見過 [e 他] (not necessarily three times)

wo jian-guo ta san ci , tamen ye jian-guo []

I meet-PERF he three times they also meet-PERF

‘I met him three times; they also met [].’

- b. 我認識他很久了，我爸爸也認識 [e 他] (but need not for a long time)

wo renshi ta hen-jiu le , wo baba ye renshi []

I know he very-long PERF I father also know

‘I have known him for a long time; my father also knows [].’

- c. 他那道菜煮得很好吃，我也會煮 [e 那道菜] (but it tastes terrible!)

ta na-dao cai zhu-de hen-haochi , wo ye hui zhu []

he that-CL dish cook very yummy I also can cook

‘He cooked the dish very well; I can also cook [].’

- d. 張三很快地吃完了飯，李四也吃完了 [e 飯] (but slowly)

Zhangshan hen-kuai-di chi-wan le fan , Lisi ye chi-wan le []

very-quickly eat- PERF PERF meal also eat-PERF PERF

‘Zhangshan finished the meal very quickly; Lisi also finished [].’

There are two ways for the meanings of the adjuncts to sustain. One is to spell out the adjuncts in the second conjunct, as in (21a). This re-assures that only objects, but not adjuncts, are included in the ellipsis site. The other is to strand a higher head, such as auxiliaries *shi* ‘be’ or *hui* ‘will’, and elide the VP with the adjunct included, as in (21b).⁷

⁷ The status of 是 has been discussed by some. Most people, including this thesis, follow Huang (1988) in assuming 是 as an auxiliary at T, like 會, which is subcategorized for a VP. Others consider it at a higher position and its null complement to be a larger unit. For instance, Soh (2007) considers it to be higher than NegP and its complement to be a polarity phrase Σ P. Wei (2010) regards it to take a TP complement. In comparison between 我也是 and 我也會, Wei (2010) states that 我也是 is semantically bleached while 我也會 is semantically rich. The latter can resort to resumption when an operator movement is blocked by an island, yet

- (21) a. 我見過他三次，他們也見過 [e 他] 三次
wo jian-guo ta san ci , tamen ye jian-guo [] san ci
 I meet-PERF he three times they also meet-PERF three times
 ‘I met him three times; they also met [] three times.’
- b. 我見過他三次，他們也是 [VP]
wo jian-guo ta san ci , tamen ye shi []
 I meet-PERF he three times they also is
 ‘I met him three times; they also did.’

Aoun and Li (2008) adds another piece of evidence for the exclusion of adjuncts from the ellipsis site. As indicated in (22), the negator *bu* targets the VP while *mei* targets the adjunct. When the *mei* phrase is manipulated into a coordinated sentence as (23), the second conjunct cannot copy the same negator, suggesting that the adjunct *ji-nian* ‘a few years’ is no longer present in the conjunct. To express a meaning in line with the first conjunct, the whole clause must be repeated, as in (23b).

- (22) 我不 [認識他] / 我沒認識他 [幾年]
wo bu renshi ta / wo mei renshi ta ji nian
 I NEG know him I NEG know him some year
 ‘I don’t know him.’ ‘I haven’t known him for many years.’
- (23) 我沒認識他幾年 a. *我爸也沒認識 [e 他]
*wo mei renshi ta ji nian , *wo ba ye mei renshi [ta]*
 I NEG know him some year my dad also NEG know ~~him~~
- b. 我爸也沒認識他幾年
wo ba ye mei renshi ta ji nian
 my dad also NEG know he some year

‘I haven’t known him for many years. My dad also hasn’t known him for many years.’

the former cannot, due to its inability to assign referentiality. Li and Wei (2014: 292-294) indicate that the two constructions both have mixed readings. What’s different is that, 我也是 is subject to island conditions while 我也會 is not. Also, the former demands an antecedent in the context, like a short answer confirming to a statement, whereas 我也會 does not.

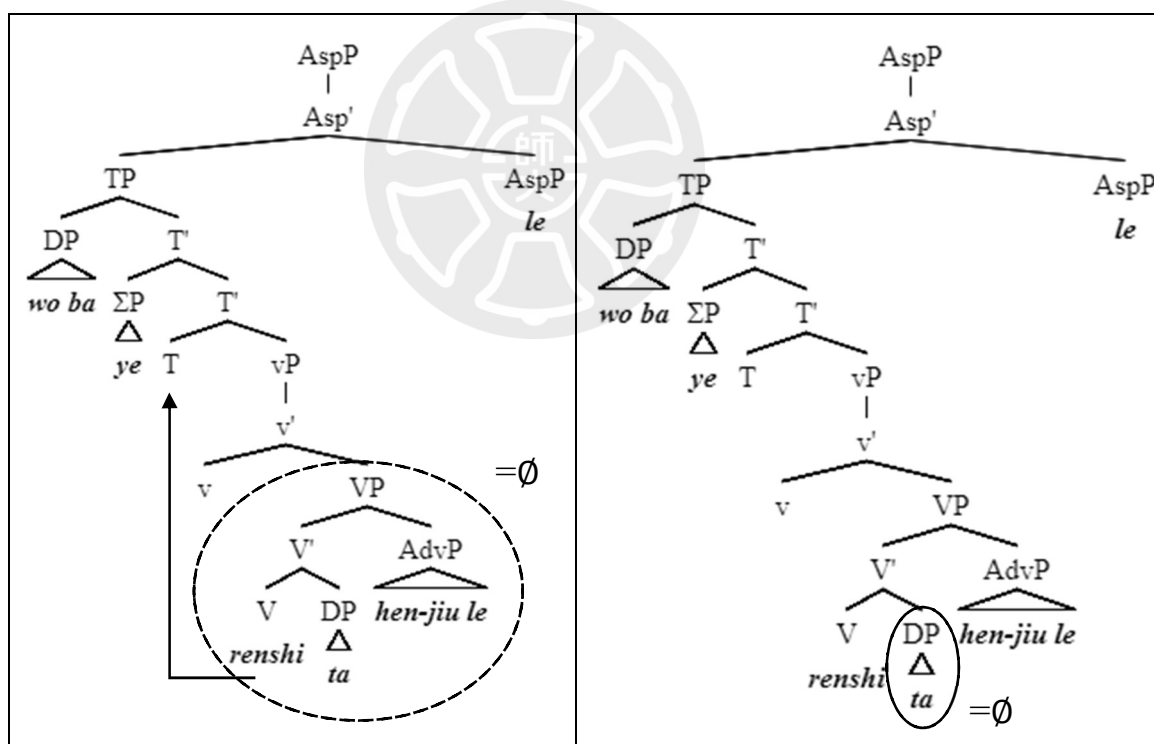
The merit of the adjunct test is that it can be independent from whether the verb is in V or v.⁸

Suppose the adjunct is under VP, then its exclusion suggests that the empty site in the V-stranding structure is a unit smaller than a VP.⁹ The V-stranding clause (20b) is illustrated in (24), with a contrast of the two accounts. As shown by the circles, VP ellipsis targets a larger scope. The AE account enables syntacticians to consider the stranding verb to remain in its base-generated position (Cheng, 2011; Xu, 2003; Aoun and Li, 2008), saving them from the bold assumption of V-to-T movement in Chinese.

- (24) *wo ba ye renshi [ta hen-jiu le]*
 ‘My dad also knows [him for a long time]’

a. VP ellipsis account

b. AE account



⁸ One of its shortcomings is that adjuncts are inherently optional, with which Landau (2020) reminds to treat the exclusion test with certain caution.

⁹ The presumption is based on Soh's (1998) statement that adjuncts are inside the VP (not right-adjoined to the higher vP).

The missing adjuncts may be used against the **PF-deletion** account since the adjuncts just disappear from the gap without the interpretation of an inherent structure at the LF-level though the partial duplication is as well unclear for the **LF-copying** view.

That said, VP ellipsis is not entirely ruled out in Chinese, but is confined to Aux-stranding patterns, as in (25).¹⁰ Ellipses with stranded *hui* ‘will’ and *shi* ‘be’ are safe and representative examples for VP ellipsis in Chinese since few would oppose Aux-to-T movement in Chinese. Landau (2020) and Cheng (2011), as proponents of AE, do not deny the possibility that both VPE and AE analyses may appear in a same language, targeting different structures. Meanwhile, note that Chinese modals are considered to occupy not T, but V in the mainstream view. As they fall into the scope of V-stranding patterns, a section in chapter three is devoted to them.

- (25) a. 小明會放棄考國考，我也_T會_[VP 放棄考國考]
Xiaoming hui fangqi kao guokao, wo ye hui []
 will give.up take national.exam I also will
 ‘Xiaoming will give up on the national exam; I also will [].’
- b. 小明放棄考國考，我也_T是_[VP 放棄考國考]
Xiaoming fangqi kao guokao, wo ye shi []
 give.up take national.exam I also BE
 ‘Xiaoming gave up on the national exam; I also did.’

¹⁰ Wu (2016) strives to defend VPE on V-stranding construction. She reports four phenomenon which *null argument* approach cannot capture and suggests that the two analyses should co-exist. However, her understanding of *null argument* approaches seems to differ from the *Argument Ellipsis* of Landau, Cheng and this research. Her version is a bunch of analyses including Free empty, topic-variable and Truly Empty whereas ours is a variation of ellipsis, which differs from VPE only on the size of elided complements.

2.5 Cheng's (2013) Integrated View

Cheng (2011, 2013) suggests that V-stranding complement gaps may be subject to multiple analyses, for the possibility that different empty categories may fit in the slot after a stranded verb.

*'AE is not the only way to derive null arguments (Cheng, 2011, p.9),
'V-stranding constructions may need more than one analyses to capture its variety
(2013, p.116).'*

He recognizes the various empty categories in Hankamer and Sag's (1976) system and maps the existing approaches to them. In the framework, deep anaphors are base-generated as empty in their underlying representations, whereas Surface anaphors are derived via an operation. The formers do not require an overt, linguistic antecedent; it can be one embedded in the discourse context. For instance, neither the 'it' in (26a) nor the empty slot in (26b) has a spoken antecedent.

- (26) a. Bill (observing Alice standing on her feet to reach for a book):
"You need help?"
Alice: "I can't reach **it**."
- b. Bill (pointing to the seat beside Alice): "You mind ____?"
Alice: "Not at all. Just sit."

On the other hand, surface anaphors demand a syntactic antecedent as well as a strict parallel with the antecedent. Take (27) for example, the first clause is active while the second is passive. The surface anaphor derived by VP ellipsis in (a) prohibits voice mismatch with the antecedent clause. However, deep anaphors do not have such a restriction, as 'do it' in (b) and the null complement anaphora in (c).

- (27) The rubbish had to be recycled,
- | | |
|-----------------------------------|------------------------|
| a. *so Bill did []. | VPE → surface |
| b. so Bill did it . | 'do it' proform → deep |
| c. so Bill volunteered Ø . | NCA → deep |

Aside from obligatory antecedents and requirement of parallel structures, a surface anaphora differ from a deep anaphora in that the former, though invisible, can serve as an antecedent for a following pronoun. In (28), the three anaphors all refer to ‘*do the dishes*’ but only the surface anaphora in (a) is legitimate to license the pronoun ‘it’ in the because-clause.

- (28) Steve didn’t want to do the dishes,
- a. so Jim did [] VPE → surface
 - b. *so Jim did **it** ‘do-it’ proform → deep
 - c. *so Jim volunteered **Ø** NCA → deep
- because he thought **it** wouldn’t take much time.

Hankamer and Sag’s (1976) framework can be summarized as follows.

deep anaphora: personal pronoun, sentential *it*, *do it*, *one*, pro-drop, NCA
surface anaphora: VP ellipsis, sluicing, stripping, gapping, *do so*

Applied to V-stranding constructions in Chinese, Cheng (2013: 112) associates the four existing analyses to the empty categories, organized as below. Empty nouns are deep anaphors, which are discourse-based and have no internal structure. Null subjects belong to (1a); null complements after a stranded V may have a split distribution across (1b) and (2b).

<i>deep anaphors</i>	<div style="display: inline-block; vertical-align: middle;"> <div style="display: inline-block; vertical-align: middle;"> <div style="display: inline-block; vertical-align: middle;">1a. null pronominal (<i>pro</i>)</div> <div style="display: inline-block; vertical-align: middle;">1b. topic-variable / NCA</div> </div> <div style="display: inline-block; vertical-align: middle; margin-left: 10px;"> <div style="display: inline-block; vertical-align: middle;">3a. definite</div> <div style="display: inline-block; vertical-align: middle;">3b. indefinite</div> </div> </div>	
<i>surface anaphors</i>	<div style="display: inline-block; vertical-align: middle;"> <div style="display: inline-block; vertical-align: middle;">2a. VP ellipsis</div> <div style="display: inline-block; vertical-align: middle;">2b. Argument ellipsis</div> </div>	

Inside (1b), Cheng further distinguishes definite/indefinite variables based on (29).¹¹ The object gap in (29a) can be exactly the same three students Zhangshan saw (strict reading) or other three students (quantification reading). By contrast, the object gap in (29b) is

¹¹ Recall that in 2.1, while Li and Wei (2014) assumes only definite NPs can be topicalized, I have exemplified that topicalization is actually not confined to the definiteness of a nominal.

disambiguated with the definite topic *na san-ge xueshen*; only the strict interpretation is retained.

- (29) a. 張三看見了三個學生_i · 李四也看見了[*e*_{i/k}] (Cheng, 2013: 127)
Zhangshan kanjian le san-ge xueshen_i, Lisi ye kanjian le []_{i/k}
 see PERF three-CL students also see PERF
 ‘Zhangshan saw three students_i. Lisi also saw (the) three students_{i/k}.’
- b. 張三看見了那三個學生_i · 李四也看見了[*e*]_i
Zhangshan kanjian le na san-ge xueshen_i, Lisi ye kanjian le []_i
 see PERF DEF three-CL students also see PERF them
 ‘Zhangshan saw three students_i. Lisi also saw them_i.’

Surface anaphors include VP ellipsis (Aux-stranding) and AE ellipsis (V-stranding). They differ from deep anaphora in that they can be moved, which entails containing an internal structure, and that they require a linguistic antecedent. Cheng separates AE from VPE with three tests, i.e., the *domain of copying* test, the *part-whole construction* test and the *exclusion of adjunct* test.¹² That said, Cheng’s integrated view serves as a stepping stone for the following investigation.

¹² The first two tests involve mixed readings which I cannot interpret from Cheng’s data. At least, I can agree with the adjunct test.

Chapter 3. Null Complements with Different Syntactic Categories

Different verbs C-select different syntactic categories as their complements. Some Chinese verbs subcategorize for a clausal complement (e.g., *dasuan* ‘plan’ 打算/ *juede* ‘feel’ 覺得/ *renwei* ‘consider’ 認為 + clause); others demand a noun as its complement (e.g. *mai* ‘buy’ 買/ *ti* ‘kick’ 踢/ *chi* ‘eat’ 吃/ *tonzhi* ‘inform’ 通知 + noun); still others may take both (e.g. *kanjian yi-zhi go* ‘see a dog’ 看見一隻狗/ *kanjian ta bei go yao* ‘see he getting bitten by a dog’ 看見他被狗咬). This chapter follows a context flow from null nominal, verbal complements to clausal ones.

3.1 Missing nominal complements

Firstly, it should be clarified again that *object gaps* and *arguments* are not equal to *null nominal objects*. The formers can be a complement of any phrasal category, including the latter, which are simply nominal phrases. Much research has discussed missing nominal complements. As reviewed in the last chapter, the trend has developed away from VP analysis to argument ellipsis analysis, based on the adjunct exclusion test, as (20d), repeated here as (30). The manner adverb is not duplicated to the object gaps, but merely dropped.

(30) 張三很快地吃完了飯 · 李四也吃完了 [e 飯]

Zhangshan hen kuai-di chi-wan le fan , Lisi ye chi-wan le []
very quickly eat-PERF PERF rice also eat- PERF PERF
‘Zhangshan finished his meal quickly; Lisi also finished his.’

With the same logic, arguments can also be narrowed down to an even smaller unit.¹³ The counterpart adjuncts for a nominal phrase are like *hen-dou* ‘a lot’ in (31), and the quantity

¹³ What Cheng and Landau meant for ‘arguments’ is not restricted to a nominal but is an umbrella term for manifold complements subcategorized by a verb.

phrases in (32). (31) and (32a) show that the quantity is not duplicated to the object gaps. Though *ye* ‘also’ might prompt a listener to assume an identical copy in the object gap, the shorten second conjunct can actually carry a different amount of consumption, as in (32b), in which case the scope of *ye* only exerts to the identical action. To yield the interpretation of the same quantity, one must either specify it in the second conjunct or to strand the auxiliary *shi* ‘be’ in a higher node, as in (32c). The same observation is also found on classifiers, as shown in (33).

- (31) 小明喝了**很多**啤酒，我也喝了 [—]

Xiaoming he-le hen-dou pijiu, wo ye he-le []

drink-PERF very-much beer I also drink-PERF

‘Xiaoming drank a lot of beer. I also drank some.’

- (32) 小明喝了**三罐**啤酒，

Xiaoming he-le san-guan pijiu

drink-PERF three-can beer

‘Xiaoming drank three cans of beer,’

- a. 我也喝了 [—] = 我也有喝 []

wo ye he-le [] = wo ye yio-he []

‘I also drank some.’ (not necessary one can)

- b. 我也喝了一罐 [—]

wo ye he-le yi-guan [] ‘I also drank one can.’

- c. 我也是 [VP]

wo ye shi [] ‘I also did.’

- (33) 小明問了**三個**問題，我也問了 [—]

Xiaoming wen-le san-ge wenti, wo ye wen-le []

ask-PERF three-CL question I also ask-PERF

‘Xiaoming asked three questions. I also asked some.’ (not necessary three)

Intriguing, if the antecedent nominal complement contains a determiner, as in (34), the entire complement can be interpreted from the gap in the second conjunct. This suggests a nominal

structure as (35a), in which the D c-commands the QP and N', with the QP right-adjoined to the lower N' node. With the presence of a D in the antecedent complement, the gap in the second conjunct hosts the entire DP, thus a case of DP-ellipsis. Without a D in the first conjunct, the scope of ellipsis shrinks to include solely the bare N, as the circle in (35b) indicates, thus a case of bare N-/(N'-) ellipsis.

- (34) a. 小明看了那三集韓劇，我也看了，結果我們都哭了

Xiaoming kan-le na san-ji pijiu, wo ye kan-le [],
 watch-PERF that three-series k.drama also watch-PERF

jieguo women du ku-le
 result we both cry-PERF

‘Xiaoming watched the three series of Korean drama. I also watched (the three series). It turned out we both cried.’

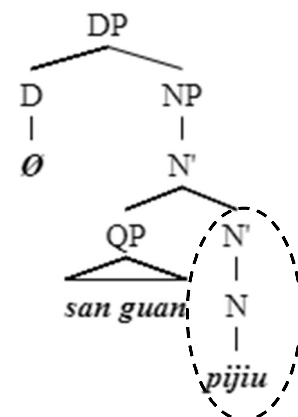
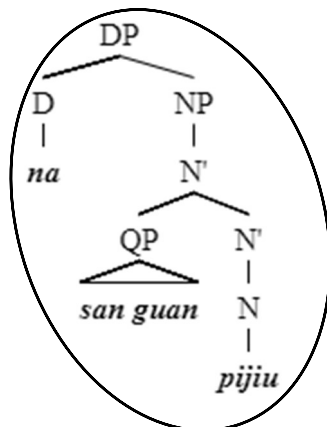
- b. 小明問了他媽媽那三個問題，我也問了我媽 [—]，結果我們都被罵了

Xiaoming wen-le ta mama na san-ge wenti, wo ye wen-le
 ask-PERF his mom that three-CL question I also ask-PERF

wo ma [], jieguo women du bei ma le
 my mom turn.out we both PASS scold PERF

‘Xiaoming asked his mom the three questions. I also asked my mom (the three questions). It turned out we both got scolded.’

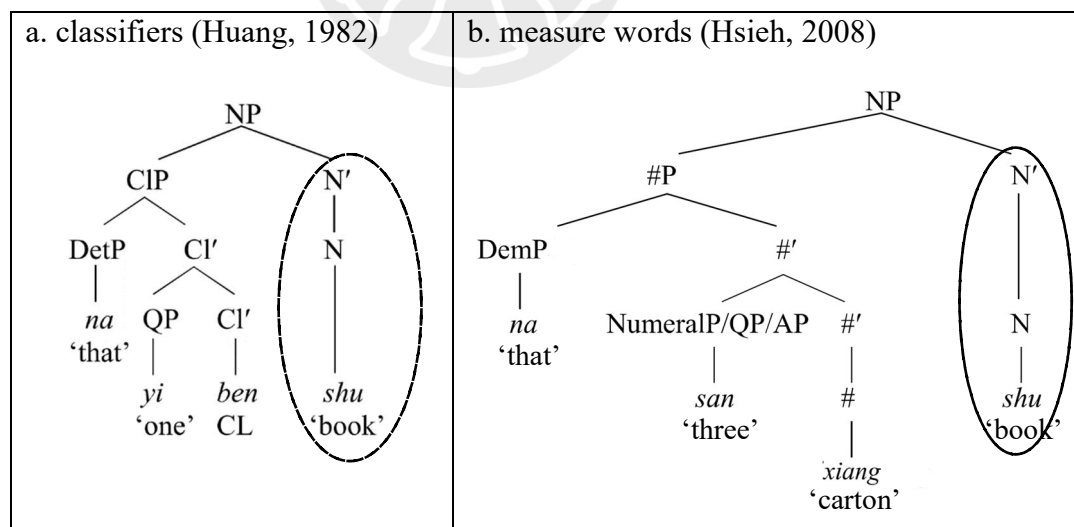
- (35) a. *na san-guan pijiu* ‘the three cans of beer’ b. *san-guan pijiu*



It is conjectured that **bare N-ellipsis is the default nominal complement gaps** since the quantity phrases are not always contained in the antecedent. As the head of the DP, the **determiner has certain prominence and privilege that it must be copied** to the D node in the nominal structure of the complement gap, leading to the entire DP to be duplicated. There is no reason for the quantity phrase to be excluded since the deletion now targets a higher node (same as frequency phrases being included in Aux-stranding VPE).

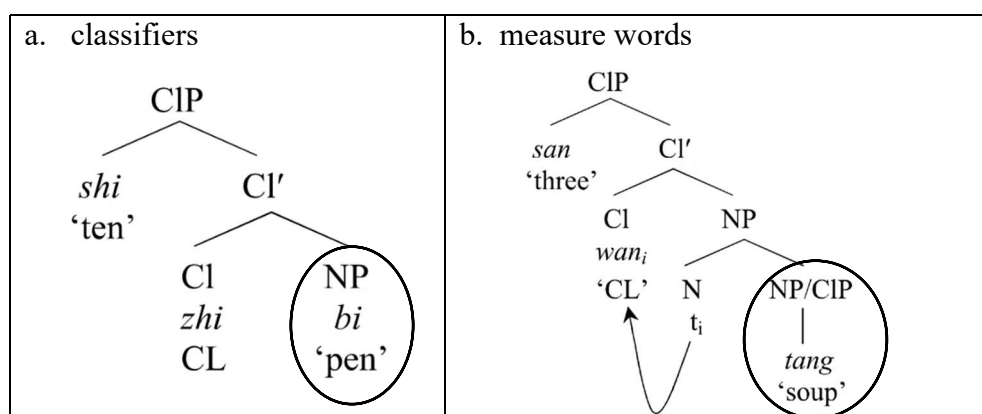
Her (2012) reviews two herds of existing branching accounts, which place classifiers and measure words on the same side; both on the left, as presented in (36), or both on the right, as in (37). My data is inclined to the left-branching view, with the quantity phrase (CIP or #P) right-adjoins to the N' node as an adjunct. Still, given that the presence of the determiner may influence the scope of reduplication, it is better to place the D node in a higher projection.

(36) Unified left-branching



On the other hand, since the right-branching view places quantity words and bare N in a c-commanding relation, it would have trouble explaining why only the terminal NP is copied to the gap while the intermediate nodes are all left-out.

(37) Unified right-branching (Cheng and Sybesma, 1999)



The different scope of meaning recovery with/without a demonstrative determiner may cast a doubt to Cheng's hypothesis that Chinese lacks a DP layer. Assuming that only the complement of a phase head can undergo ellipsis, he boldly conjectures that only languages without a DP layer can allow V-stranding complement gap since the absence of DP makes VP a phase. The account is compatible with the fact that English, as a language with a DP layer, forbids deletion of complements of a verb. Chinese does lack an equivalent of the English article determiners *the*, and the obligatory presence of *a* and *an*, but it also has several demonstrative determiners as *na* 'that', *zhe* 'this', *naxie* 'those' and *zhexie* 'these'. At that time, Cheng was not acknowledged of the exclusion of classifier/measure words from the nominal complement gap. The nominal arguments he assumed only cover N'-ellipsis. With the exclusion of the nominal adjuncts (i.e., quantity expressions), the syntactic treatment of these determiners may require a re-consideration.

3.2 Missing VP complements after a stranded V

3.2.1 Chinese serial verb constructions

To explore verbal complements of V in Chinese, one should first understand how two verbs are connected in the language. Chinese is considered to have high frequency in serial verbs, which are bonded together with no morphosyntactic markers in between. The two co-

occurring verbs are subject to different degrees of closeness. Loosely tied verb pairs may have the following semantic relations (Li and Thompson, 1981). They resemble English sense verbs: *hear him singing*, causative *make me laugh* and resultative *shoot him dead*.

- Purposive : *qu chi-fan* ‘go - have a meal’ 去吃飯
- Causative : *rang ta xiao* ‘make him laugh’ 讓他笑
- Resultative : *da po* ‘hit - break’ 打破, *he zui* ‘drink - drunk’ 喝醉,
zou lei ‘walk and get tired’ 走累,
chi huai duzi ‘eat – bad - stomach’ 吃壞肚子
- Perceptive : *ting ta chang-ge* ‘listen to him singing’ 聽他唱歌
- Simultaneous : *tang-zhe kan shu* ‘lying - reading a book’ 躺著看書;
chi-fan kan dianshi ‘eating – watching TV’ 吃飯看電視;
xizao chang-ge ‘showering - singing’ 洗澡唱歌

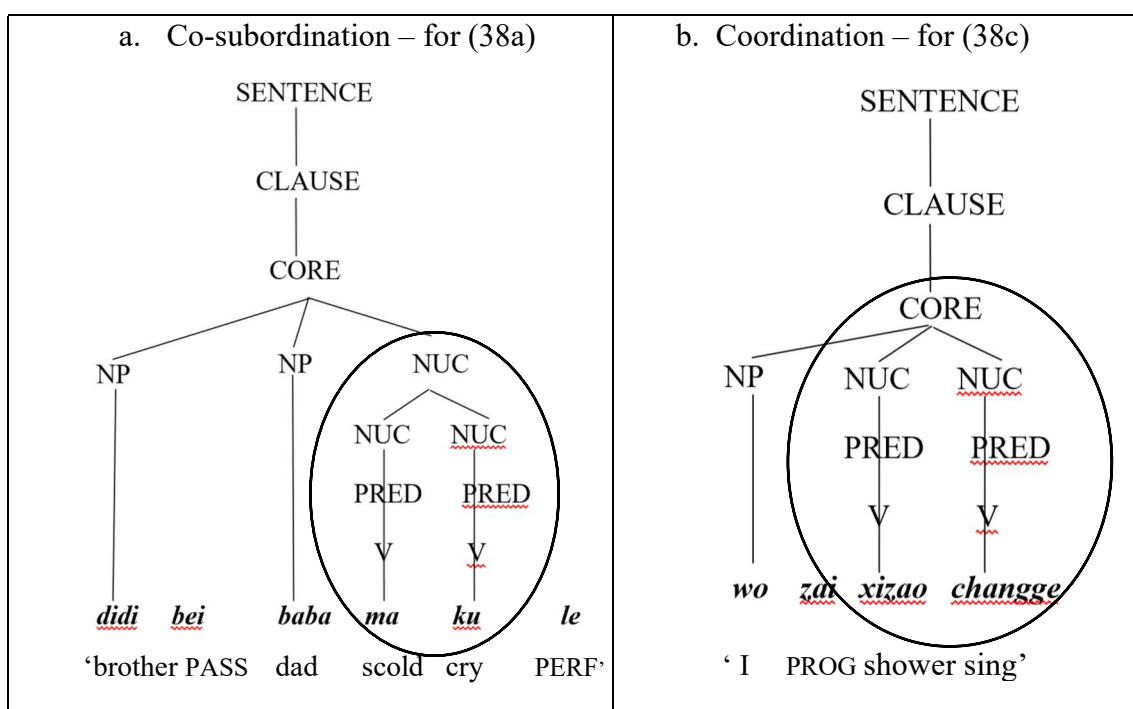
In addition, compound verbs, which are unique to Chinese, are conventionally tied. Some may have opposite meanings (e.g. *lai-chu* ‘come + go = go’ 來去, *jiaoxue* ‘teach + learn = teach’ 教學). Others may duplicate the same meaning (e.g. *tun-yan* ‘swallow’ 吞嚥, *sheng-chan* ‘deliver (a baby)’ 生產); dropping one of the verbs may not make a difference in meaning (e.g. *ta sheng-chan / sheng / chan xia le yi-ge nanyin* ‘She delivered a baby boy’). Still other verb pairs may require the presence of both verbs to construct the event.

(38) displays manifold kinds of serial verb constructions. In the second clauses, the first verb is sustained while the second verb is omitted. They are grammatically acceptable, however, meanings of the second verb cannot be interpreted from the object gaps. Like adjuncts, they are absent at both the PF- and the LF-level. The site is truly empty. Somehow the verbal complement gaps cannot access to the mechanism of meaning recovery. The interpretation stops at the first action; the parse does not find the sentence incomplete. It is thus suggested that null VP complements do not exist in Chinese.

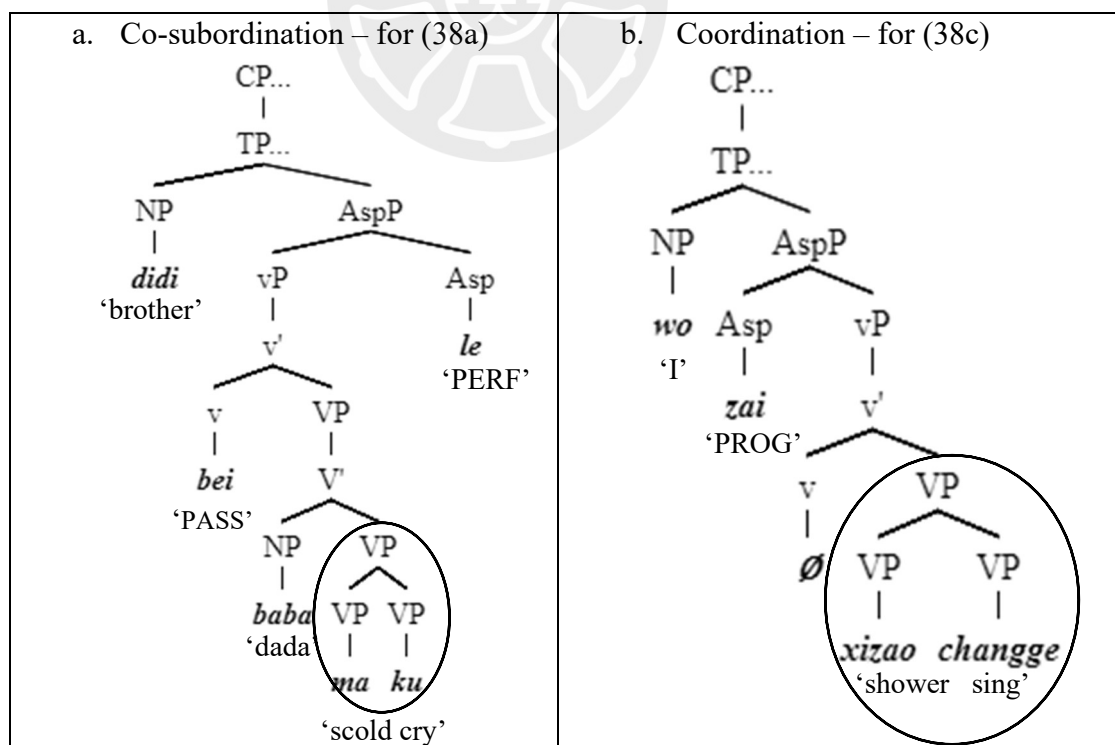
- (38) a. 弟弟被爸爸罵哭了，妹妹也被爸爸罵 [] 了
didi bei baba ma ku le , meimei ye bei baba ma [] le
 brother PASS dad scold cry PERF sister also PASS dad scold PERF
 ‘Brother was scolded by Dad and cried. Sister was also scolded by Dad.’
- b. 我看著考卷笑，小明也看著考卷 []
wo kan-zhe kaojuan xiao, Xiaoming ye kan-zhe kaojuan []
 I look.at test.paper laugh also look.at test.paper
 ‘I looked at the test paper, laughing; Xiaoming also looked at the test paper.’
- c. 我在洗澡唱歌，小明也在洗澡 []
wo zai xizao changge, Xiaoming ye zai xizao []
 I PROG shower singing also PROG shower
 ‘I am singing in a shower. Xiaoming is also showering.’
- d. 我掏錢買單，小明也掏錢 []
wo tao-qian maidan, Xiaoming ye tao-qian []
 I take.out-money pay.the.bill also take.out-money
 ‘I took out money to pay the bill. Xiaoming also took out money.’

The cause drives from how the two verbs are bonded. Following Van Valin (2005), data (38a) is **co-subordination** (a juncture type) since the two verbs involve a resultative relation. (38c, d, e) are **coordination** because the two actions are irrelevant; they just happen to co-occur.¹⁴ In the Role and Reference framework, two verbs in co-subordination are projected to a same level, i.e., nuclear, whereas two verbs in coordination are projected to the next higher level, i.e., core, as shown in (39). For those who may be more comfortable with a formal X-bar representation, they can refer to (40), which is based on Chan and Chen’s (2002) analysis on Chinese serial verb construction. They do not distinguish co-subordination from coordination and treat the verbs as two VPs projected to another VP.

¹⁴ Conjunctions are not compulsory for the coordination juncture in Van Valin’s framework.

(39) RRG representations for serial verb structures¹⁵

(40) Formal representations for serial verb structures



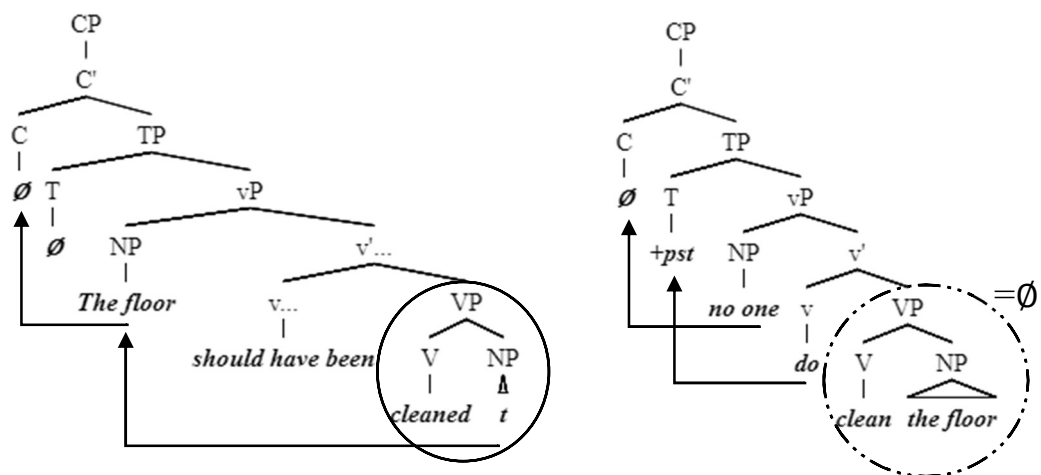
¹⁵ *bei*, *le*, *zai* are functional categories, or operators in the RRG framework. They belong to the operator tree, which should be the upside-down reflection of the content words, but I omit the part to save space.

In either framework, one can conclude that the bonds between the two verbs are more semantic than syntactic and can be easily-broken. When a second verb is dropped at PF-level, there is low motivation to either sustain its structure at LF-level or duplicate it from the first clause.¹⁶ Since its meaning cannot be interpreted from the ellipsis site, like the way adjuncts and classifiers disappear, I can conjuncture the nonexistence of null VP complements in V-stranding gaps.

3.2.2 Voice mismatch

Before entering the discussion of TP complements, one phenomenon that posits between VP and TP complements is voice mismatch. Voice mismatch, as the name suggests, contains one active clause conjoined to a passive clause. Assuming that an elided element should be identical with its antecedent in its underlying form (i.e. before passivization), voice mismatch sentences can only be legitimate if the *v* head, which hosts voice features, is excluded from the ellipsis site. Namely, the elided complement is a VP. Take the English Aux-stranding data (41) for instance, since the *v* head is excluded from the omission, the missing VP and the antecedent VP (the circled parts) can be identical in the underlying form, yielding the acceptance of the sentence.

(41) The floor_i should have been cleaned *t_i*, but no one did _v[_{VP}[~~clean the floor~~]].



¹⁶ 'sustain the structure' in the PF-deletion view; 'duplicate it from the antecedent' in the LF-copying view

Chinese modals resemble French in respect of being classified as verbs (occupying V); thus, one may expect the language to forbid voice mismatch. Yet, it turns out to be the reverse. Chinese is observed to tolerate voice mismatch like English does, as shown (43). It could suggest that the *v* head is excluded from the ellipsis site and that the omitted element is lower than a *v*P.

(43) 這個問題早該被解決，但一直沒有人可以[解決這個問題]

*zhe-ge wenti zao gai bei jie jue , dan yizhi meiyio ren keyi [].*¹⁷

this problem early should be solved but always no people can

‘This problem should have been solved but nobody can.’

The surprise can be explicated with the disability of V-to-T raising of Chinese modal verbs (same as common verbs, according to the mainstream belief). While French modals can raise past the *v* (passive), up to T, and delete what follows, Chinese modals stay below the *v* head.

Thus far, I have presented that the null complements after a stranded V are not VP but something hierarchically lower than a *v*P. The next section will demonstrate that the missing complements in data like (43) are CPs with a PRO between the stranded V and the elided V.

3.3 Missing CP/TP complements after a stranded V

3.3.1 Not TPs, but CPs – considering PRO

Clausal complement gaps are common in Chinese, as shown in (44). Some people might mistake the deleted materials for VPs but they are in fact a small clause. Others might doubt that these stranded verbs are in their intransitive usage. Such assumption would be tenuous since the verbs still require an antecedent, be it syntactic or pragmatic, for its complement. The data diverges from typical intransitive cases such as *ta diedao le* ‘he stumbled.’ or *ta ku le* ‘he cried.’

¹⁷ *kenyi* ‘can’ can be substituted with *nenggo* / *yio-banfa* ‘can’, *yuanyi* / *ken* ‘willing’

- (44) a. 小明希望 去海邊玩，我也希望
Xiaoming xiwuan qu haibian wuan, wo ye xiwuan []
 hope go seashore play I also hope
 ‘Xiaoming hopes to go to the beach. I also play [].’
- b. 小明想 出去玩，我也想
Xiaoming xiang chuqu wuan, wo ye xiang []
 want hang.out play I also want
 ‘Xiaoming wants to hang out. I also want to [].’

Radford (2004) maintains that most small clauses headed by a verb are CP, regardless of the finiteness; only a few that contains a defective TP lacks the CP layer. The clausal complements in control constructions (V-V) and for-to infinitives (V for/to V) are CPs; exemplified verbs include *want*, *try* and *arrange*. Suppose it is true, then data in previous research on the V-stranding elliptical construction, including those mentioned in this thesis, may require re-examination, as presented in (45); (a) would be object control, (b) is subject control and (c) to-infinitive. The stranded control V can be a lexical verb (a,b) or a deontic modal (e.g., *keyi* ‘can’ 可以, *hui* ‘will’ 會, *nen* ‘can’ 能, *gan* ‘dare’ 敢, *ken* ‘willing’ 肯, *yuanyi* ‘willing’ 願意, *xiang* ‘want’ 想, as those listed in Lin and Tang (1995)).

- (45) a. 小明說服小花 吃芹菜，也說服 John_i [PRO_i 吃芹菜]
Xiaoming shuifu Xiaohua chi qingcai, ye shuifu John [PRO [CP]]
 persuade eat celery also persuade
 ‘Xiaoming persuades Xiaohua to eat celery, also persuades John [PRO to eat celery].’
- b. 小明開始 寫作業 了，我_i也開始 [PRO_i 寫作業] 了
Xiaoming kaishi xie zuoye le, wo ye kaishi [PRO [CP]] le
 start write homework PERF I also start PERF
 ‘Xiaoming started to do the homework. I also started [].’

- c. 媽媽希望 小明讀博班 · 爸爸也希望 [小明讀博班]

mama xiwang Xiaoming_k du buoban, baba ye xiwang [e_k [CP]]

mom want study Ph.D dad also want

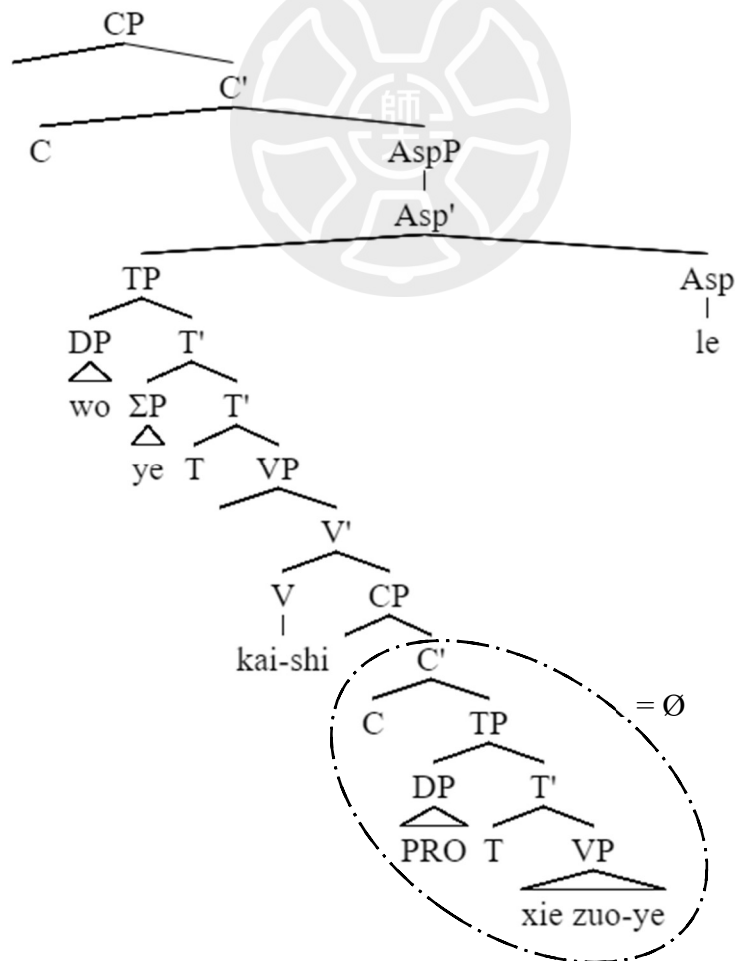
‘Mom wants for Xiaoming to pursue a Ph.D. Dad also wants [].’

The second clause in (45b) is illustrated in (46), with the elided scope is indicated by a circle.

The aspectual marker *le* is right-adjoined to the C’ node. A series of vacuum nodes are located between the stranded verb *kaishi* ‘start’ and the deleted VP *xie zuoye* ‘do homework’. The presence of PRO entails the presence of a CP, which constitutes a phase and prohibits case agreement and A-movement out of it.

- (46) *wo ye kaishi [CP [vP [PRO xie-zuoye]]] le*¹⁸

‘I also started to do the homework.’



¹⁸ The sentential perfective aspect marker *le* is treated as the head of an AspP projected above TP but below CP, pace Soh & Gao (2006).

On the other hand, exceptional case marking (ECM) verbs and raising verbs are distinguished from the previous herd since they allow A-movement of the subject out of the small clause, to the specifier of the highest TP, as (47) shows for raising verbs.¹⁹ The phenomenon stems from the mechanism of phi-feature agreement. These verbs, including *believe*, *confirm*, *intend*, *expect* and *consider* for ECM and *seem* and *appear* for raising verbs, select a defective TP which lacks a CP layer. Such lack of phase between the two clauses renders the A-movement out of the infinitival clause possible. It also drives the NP (*the exam*) to raise, since its phi-feature cannot be checked at its initial position but can only agree with the T of the main clause.

(47) underlying form: _____ appears [**the exam** to be difficult].

surface form: **The exam**_i appears [*t_i* to be difficult].

Corresponding Chinese verbs may be *renwei* ‘consider’, *zhenshi* ‘confirm’ and *kan-qilai* ‘appear’ since they allow A-movement, as in (48-50).²⁰ The number of such verbs are quite limited in Chinese and only they take a TP complement.

(48) a. 我認為 [這次考試很難]

wo renwei [zhici kaoshi hen nan]

I think this exam very hard

‘I consider the exam to be very hard.’

b. [這次考試] 被認為很難

[zhici kaoshi] bei renwei hen nan

this exam PASS think very hard

‘The exam is considered to be very hard.’

¹⁹ The verb *appear* can be replaced with *is believed* to stand for ECM verbs.

²⁰ Some may doubt other Chinese equivalence to be raising verbs, e.g. *haoxiang* ‘seem’ 好像, *sihu* ‘seem’ 似乎, *xianran* ‘obviously’ 顯然. Yet, they are attested to be not verbs but sentential adverbs. An instance like (69) is ruled out because the second clause simply lacks a verb. To improve it, either the verb *qu-guo* ‘go-PERF’ should sustain and elide the NP, or adopt the auxiliary *shi* ‘do’ and elide the VP.

(i) *小明好像去過美國 · 小王也好像 [TP]

* *Xiaoming haoxiang qu-guo meiguo, Xiaowan ye haoxiang [TP]*
seem go-PERF the.US also seem

‘Xiaoming seems to have been to the US. So does Xiaowan.’

- (49) a. 檢察官證實 [市長有貪汙]
jianchaguan zhenshi [shizhang yio tanwu]
 prosecutor confirm mayor PERF bribe
 ‘The prosecutor confirmed the mayor to have bribed.’

- b. [市長] 被證實 有貪汙
[shizhang] bei zhenshi [yio tanwu]
 mayor PASS confirm PERF bribe
 ‘The mayor is confirmed to have bribed.’

- (50) a. 看起來 [這支股票漲很多]
kan-qilai [zhe-zhi guopiao zhang hen-duo]
 appear this-CLASS stock rise very-much
 ‘It appears this stock has gained a lot.’

- b. [這支股票] 看起來 漲很多
[zhe-zhi guopiao] kan-qilai zhang hen-duo
 this-CLASS stock appear rise very-much
 ‘This stock appears to have gained a lot.’

The first two ECM verbs permit V-stranding gaps, as in (51a, b), whereas the rising verb does not, as in (51c). **This suggests that, spare the very few verbs that can take a null TP complement, most Chinese V-stranding clausal gaps would be CPs.** The conclusion echoes with Cheng’s (2013) observation that null CP is quite general in Mandarin Chinese.

- (51) a. 小明認為這次考試很難，我也認為 [TP]
Xiaoming renwei zhici kaoshi hen nan, wo ye renwei TP[—]
 think this exam very hard I also feel
 ‘Xiaoming considers the exam to be very hard. I also consider the same.’
- b. 檢察官證實 [市長貪汙]，市政府也證實 [TP] 了
jianchaguan zhenshi shizhang yio tanwu, shizhenfu ye zhenshi TP[—]
 prosecutor confirm mayor PERF bribe city.government also confirm
 ‘The prosecutor confirmed the mayor had bribed; the city government also confirmed it.’

c. *這股票 看起來好像 漲很多，那股票也看起來好像

**zhe guopiao kan-qilai haoxiang zhang hen-duo*, *na guopiao ye*
this stock appear rise very-much that stock also

kan-qilai haoxiang _{TP}[]²¹

‘This stock appears to have gained a lot; that stock also appears the same.’

Nevertheless, some clausal complement gaps are attested to be illicit, as reported in Aoun and Li (2008), here as (52), which can be also extended to *renwei* / *yiwei* ‘assume’, *cai* ‘guess’, *yaoqiu* ‘demand’. Some of the sentences can be ameliorated by adding an aspectual marker, in this case, *wo ye zai dashuan* ‘I am also planning (it)’. Others cannot be recovered unless a pro-form is inserted to bear the meaning of the complement, which is yet an out-ellipsis-route method.

(52) *小明打算明天去學校，我也打算

**Xiaoming dasuan mingtian qu xuexiao*, *wo ye dashuan* []
plan tomorrow go school I also plan

‘Xiaoming plans to go to school tomorrow. I also plan to [].’

The existence of the data suggests the possibility of the acceptable clausal gaps being null complement anaphora (NCA), given the erratic permission of verbs to be stranded. Once proven, they would be subject to Huang’s (1982,1984) topic-variable analysis (to be discussed in 3.3.3).

3.3.2 Three Characteristics of null clausal complement

3.3.2.1 The assistance of aspectual markers

It is observed that the presence of aspectual markers serves to naturalize V-stranding complement gaps, e.g., the progressive adverb *zheng* ‘right’ 正, imperfect *zai* 在 and *gang*

²¹ ‘*kan-qilai haoxiang*’ to reduce the doubt of *kan-qilai* in its usage of heading an adjective, rather than a cleft clause. (cf. 這碗麵看起來好好吃 ‘the noodle looks delicious.’)

‘just’ 剛, and the sentential-final particle *le* 了, presented in (53). Particularly, (53a) shows that even an irrealis V-stranding data also requires the marker. Their presence seems to be an obligatory general restriction, to mend an **incompleteness effect** of ending the sentence with a stranded verb.

- (53) a. 小明打算明天去學校 · 我也在打算
*Xiaoming dasuan mingtian qu xuexiao , wo ye **zai** dashuan []*
 plan tomorrow go school I also PROG plan
 ‘Xiaoming plans to go to school tomorrow. I also plan to [].’
- b. 小明後悔 點了牛排 · 我也後悔 *(了)²²
*Xiaoming hohui dian le niopai , wo ye hohui [] **le***
 regret order PERF steak I also regret PERF
 ‘Xiaoming regretted ordering the steak. I also regretted [].’
- c. 小明開始 寫作業 · 我也 (*開始 / 開始了 / 剛開始)
*Xiaoming kaishi xie zuoye , wo ye kaishi [] *(le)*
 start write homework I also start PERF
 ‘Xiaoming started doing homework. I also started [].’
*wo ye **gang** kaishi []*
 ‘I am also about to start [].’
- d. 小明逃避 寫作業 · 我也在逃避
*Xiaoming taobi xie zuoye , wo ye *(zai) taobi []*
 escape write homework I also PROG escape
 ‘Xiaoming is avoiding doing the homework. I am also avoiding [].’
- e. 小明試著 吃芹菜 · 我也(*試著 / 正試著)
*Xiaoming shizhe chi qingcai , wo ye *(zheng) shizhe []*
 try eat celery I also PROG try
 ‘Xiaoming tried to eat celery. I am also trying [].’

²² Some may argue that the adjectival verb forms, *hen hohui* 很後悔 ‘regret’, *hen yioyu* 很猶豫 ‘hesitate’, do not need the aspect marker *le*. But adjectival verbs are different issues since they are stative, intransitive and do not take a null clausal complement.

Also noting the co-occurrence of *le* with complement gaps, Aoun and Li (2008:254) attribute it to semantic motivations like *change of state* or *perfective*, complying with the function Soh (2009) and Sybesma's (1999) recognize for the sentential *le*. Hence, it is suggested that the *le* after the gaps in (53b, c) modifies the first V layer rather than the second, lower V layer. A more challenging task is to determine whether the same *le* is requested on nominal complement gaps. Consider (54), the *le* at the end of the sentence can be verbal, ordered as V- *le* -gap, or sentential, ordered as (V-gap-*le*). The two treatments imply different recovery of the entire phrase, as presented in (55). I speculate that the *le* originates from a parallel with the first phrase rather than being an additional marker to naturalize the elided phrase, i.e., the verbal scope is assumed.

- (54) 小明吃了兩塊蛋糕 · 我也吃了
Xiaoming chi-(le) liang-kuai dangao, wo ye chi le
 eat-PERF two-piece cake I also eat PERF
 'Xiaoming ate two slices of cake. I also ate (some).'
- (55) sentential -- 我也吃 [蛋糕] 了 *wo ye chi [dangao] le*
 verbal -- 我也吃了 [蛋糕] *wo ye chi le [dangao]*

Though *le* may surface both at the end of a sentence with a clausal complement gap, or with a nominal complement gap, the two *le* are of different syntactic status. (56) can well exemplify the contrast between nominal and clausal complement gap. To prevent the redundancy of realizing two *le* in the second phrase, (56a) with a nominal complement gap will drop the sentential *le* (in gray) while (b) with a clausal complement gap will drop the verbal *le*.

- (56) 小明後悔 點(了)牛排 · *Xiaoming hohui dian-(le) niopai*
 regret order-PERF steak
- a. verbal -- 我也後悔點了 [牛排] 了 *wo ye hohui dian-le [niopai] le*
 b. sentential -- 我也後悔 [點子牛排] 了 *wo ye hohui [dian-le niopai] le*
 'Xioming regrets ordering the steak. I also regret it.'

In sum, the assistance of the sentential *le* is assumed for clausal complement gaps and verbal *le* for nominal complement gaps. For more distinctions between the verbal and sentential *le*, I would refer the readers to Soh and Gao (2006).

3.3.2.2 The parallel with short answers

Li and Wei (2014: 292-294) notice that the elliptical Aux-stranding phrase *wo ye shi* [VP] ‘so do I’ resembles its usage as a **short answer** in a conversation, as exemplified in (57). Both the complement gaps co-index with a previously stated antecedent. The only difference lies in whether the antecedent is in the same utterance or not.

- (57) a. VP ellipsis - 小明想上廁所 · 我也是
Xiaoming [xiang shang ceshuo]_i, wo ye shi *VP[~~xiang shang ceshuo~~]_i*
want go bathroom I also AUX
‘Xiaoming wants to use the bathroom, and I also do.’
- b. short answer
A: *Wo [xiang shang ceshuo]_i* ‘I want to use the bathroom.’
B: *Wo ye shi* *VP[~~xiang shang ceshuo~~]_i* ‘Me too.’

Such resemblance can also be extended to V-stranding gaps, be it a nominal complement as (58), or a clausal one as (59), along with the presence of aspectual markers. As one of the well-recognized characteristics of elliptical patterns, the finding may come with less surprise. What deserves more attention is that aspectual markers also plays a role in mending the incompleteness effect of the short answers.

- (58) a. nominal ellipsis
小明吃了兩塊蛋糕 · 我也吃了
Xiaoming chi-le liang-kuai [dangao]_i, wo ye chi-le *[~~dangao~~]_i*
eat-PERF two-piece cake I also eat-PERF cake
‘Xiaoming ate two slices of cake. I also ate (some).’

b. short answer

A: *Xiaoming chi-le liang-kuai [dangao]_i* ‘I ate two slices of cake.’
 B: *Wo ye **chi-le** [~~dangao~~]_i* ‘I also ate (some).’

(59) a. clausal ellipsis

他開始 [寫作業] 了，我也開始了
*ta kaishi [xie zuoye]_i le , wo ye **kaishi** [~~xie-zuoye~~]_i le*
 He start write homework PERF also start PERF
 ‘He started doing homework. I also started (doing the homework).’

b. short answer 1

A: 我昨天開始 [寫作業] 了
*Wo zuotian **kaishi** [xie zuoye]_i le*
 ‘I started doing the homework yesterday’
 B: 我也開始了 / 剛開始
*Wo ye **kaishi** [~~xie-zuoye~~]_i le / gan kaishi [~~xie-zuoye~~]_i*
 ‘I also started (doing the homework).’

c. short answer 2

A: 小明開始 [寫作業] 了嗎？
*Xiaoming **kaishi** [xie zuoye]_i le ma ?*
 start write homework PERF PAR
 ‘Has *Xiaoming* started doing the homework?’
 B: 開始了 / 剛開始 ²³
***kaishi** [~~xie-zuoye~~]_i le / gan kaishi [~~xie-zuoye~~]_i*

3.3.2.3 Verbal Identity Requirement

Another discovery is that Chinese stranded verbs seem to be free from the **Verbal Identity Requirement**. This fact can lend some support to the AE approach and posit against the VPE approach. The rule is speculated by Goldberg (2005) for Hebrew and Irish. It

²³ One of my informants suggest that 開始啦 *kaishi la* ‘start PART’ is also possible in the short answer context. However, I suppose the sentence-final particle *la* to be a phonological combination of *le* and *a* so the sentence still demands an aspectual marker. Also, this response is only possible in the second type of dialogue, i.e. (50c), but not in the first type.

demands a strict parallel between elliptical structures (VPE, NPE, sluicing and short answer) and their antecedent. Data (60) presents that the stranded Vs heading a gap must be the same as the V *hevi'a* ‘bring’ in the antecedent clause.

(60) Q: (Ha'im) Miryam **hevi'a** et Dvora la-xanut?
 Q Miryam bring[past.3.fsg] ACC Dvora to.the-store
 '(Did) Miryam **bring** Dvora to the store?'

A₁: Ken, hi **hevi'a**.
 yes she bring[past.3.fsg]
 'Yes, she **brought** [~~Dvora to the store~~].'

A₂: *Ken, hi **lakxa**.
 yes she take[past.3.fsg]
 'Yes, she **took** [~~Dvora to the store~~].'

A₃: *Lo— hi **ALXA!**
 no she send[past.3.fsg]
 No— she **sent** [~~Dvora to the store~~].'
 (Goldberg 2005: 174)

If a language observes the Verbal Identity Requirement on its stranded verbs, it entails that the stranded verb has raised out of the empty site and that the deleted unit is a VP. On the contrary, if a stranded verb does not have to be identical to the verb in the antecedent clause, then it is base-generated and thus the null complement is certainly not a VP, but something smaller.²⁴

Interestingly, the Chinese stranded Vs do not seem to be subject to this constraint, neither for those heading a clausal gap as (61), nor their short answer counterparts in (62-64). Interpretations of the complement gaps are referred to the first clause while the stranded verbs are free from the influence of the first clause. The stranded verbs can also adopt the same verbs as the antecedents but it is not compulsory. The data contradicts with Wu's (2016) observation of mismatching stranded verbs yielding illicit sentences, with which she

²⁴ Technically, a complement of a V head does not have to be smaller than the VP though it is hierarchically lower than the VP, as I clarify at the end of 3.2.2 (p.11).

seeks to uphold VPE approach for V-stranding gap.

- (61) a. 小明猶豫 要不要買票，我也還在考慮 [CP]
Xiaoming youyu yiao-bu-yiao mai piao , wo ye haizai kaolu []
hesitate to-or-not to buy ticket I also still think
‘Xiaoming hesitates whether to buy the ticket. I’m also still thinking [].’
- b. 小明打算 去交換，我也想 [CP]
Xiaoming dasuan qu jiaohuan , wo ye xiang []
intend go exchange I also want
‘Xiaoming intends to go on an exchange program. I also want to [].’
- c. 小明期待 趕快放假，我也希望 [CP]
Xiaoming qidai ganquai fangjia , wo ye xiwuan []
‘Xiaoming anticipates having the vacation soon. I also hope [].’
- (62) A: *Wo youyu yiao-bu-yiao mai piao* ‘I hesitate whether to buy the ticket.’
B: *Wo ye haizai kaolu [yiao-bu-yiao mai piao]* ‘I’m also thinking [].’
- (63) A: *Wo dasuan qu jiaohuan* ‘I intend to go on an exchange program.’
B: *Wo ye xiang [qu jiaohuan]* ‘I also want to [].’
- (64) A: *Wo qidai ganquai fangjia* ‘I anticipate having the vacation soon.’
B: *Wo ye xiwuan [ganquai fangjia]* ‘I also hope [].’

In Goldberg’s hypothesis, a clause which contains a stranded V same as the antecedent V, like (65a), has an identical VP as the first clause, while in (65b), only the complement is the same. (66a, b) illustrate the respective treatments of (65a, b). Goldberg would assume the stranded verb in (66a) to be the result of v-to-V movement and the null complement to be a VP. The assumption concurs with Huang’s (1988,1991) extended VPE assumption from Chinese Aux-stranding to V-stranding gap paradigms. On the other hand, the stranded verb in (66b) stays where it is while its complement is omitted. This is also one of the premises Landau (2020) employs to argue against VPE analysis to V-stranding construction in

languages that flout the Verbal Identity Requirement. Likewise, the data in (61) would uphold AE analysis for Chinese V-stranding complement gaps and stand against Huang's VPE analysis with verb movement.

- (65) a. 小明期待 趕快放假，我也 [v 期待 [V [CP]]]

Xiaoming qidai ganquai fangjia , wo ye qidai []

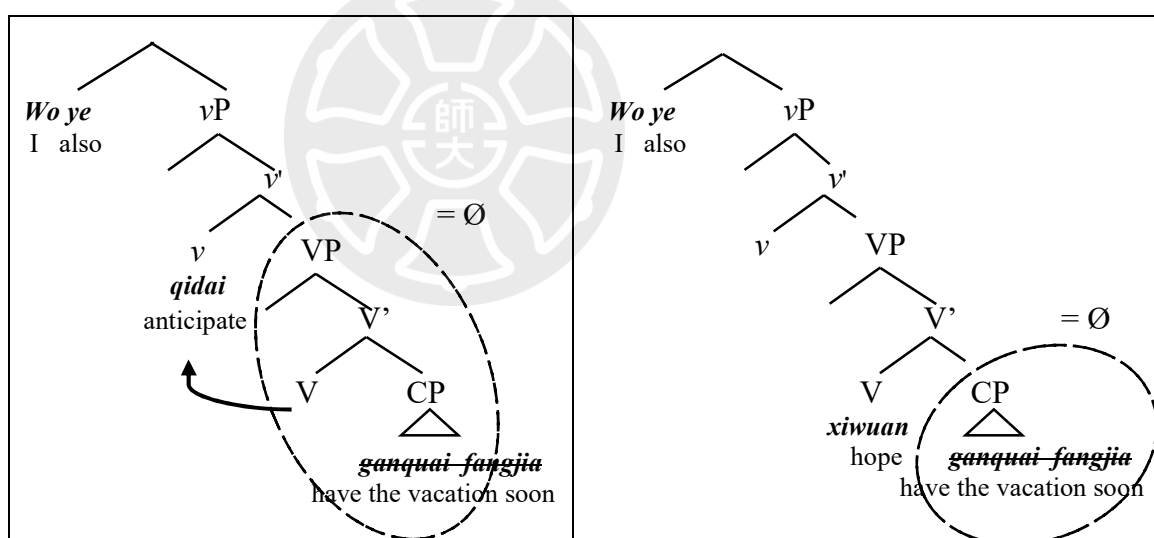
'Xiaoming anticipates having the vacation soon. I also anticipate to [].'

- b. 小明期待 趕快放假，我也 [v [V 希望 [[CP]]]

Xiaoming qidai ganquai fangjia , wo ye xiwuan []

'Xiaoming anticipates having the vacation soon. I also hope [].'

- (66) a. bound by the identity requirement → VPE account b. free from the identity requirement → AE account



The extension to nominal complement gaps is rather unsteady. Essentially, it is difficult to find near synonyms to replace the verbs in *jian shitou* 'pick up stones' 撿石頭, *chi dangao* 'eat cake' 吃蛋糕, *ting yanjiang* 'listen to a speech' 聽演講. Data (67) are merely workable examples. Some of my informants judged them to be perceptually acceptable, but they themselves may not produce such sentences. Some favor (67b) over (a) due to the different degrees of likeness expressed by *taoyian* 'hate' 討厭 and *bu xihuan* 'dislike' 不喜歡; but other prefers the reverse.

The short answer in (68) is more acceptable without the influence of *ye* ‘also’ 也, which might force the verbs to be identical.

- (67) a. 小明不喜歡體育老師，我也很討厭 [他]

Xiaoming bu-xihuan tiyu laoshi , wo ye hen taoyian []

NEG-like PE teacher I also very hate

‘Xiaoming dislikes the PE teacher; I also hate [] very much.’

- b. 小明討厭體育老師，我也不喜歡 [他]

Xiaoming taoyian tiyu laoshi , wo ye bu-xihuan []

hate PE teacher I also NEG-like

‘Xiaoming hates the PE teacher; I also dislike [].’

- (68) A: *Ni bu-xihuan tiyu laoshi ma?* ‘Don’t you like the PE teacher?’

B: *hen taoyian [tiyu laoshi]* ‘(I) hate [].’

3.3.3 Another possibility: Null Complement Anaphora

Having assumed V-stranding null complements as surface anaphora, which demands a linguistic antecedent and a strict parallel with it, I cannot overlook the possibility of them being a kind of deep anaphora called null complement anaphora (NCA). The concept of NCA originates from research on English V-stranding clausal complement gaps. It is well-known that English cannot strand a verb at the end of a sentence, as (69a), but requires a *do*-support since English verbs cannot undergo V-to-T movement. Only auxiliaries *be* and *do*, which can raise from V to T, and modals, which essentially occupy T, can be stranded at the end of a clause, as in (69 b-d).

- (69) a. *Bob kicked the logs and I kicked [VP], too.
 b. Bob kicked the logs and I did [VP], too.
 c. Bob shouldn’t kick the logs and I shouldn’t [VP], too.
 d. Bob was a student at Harvard and I was [VP], too.

However, some exceptions have been noted, as shown in (70).²⁵ These verbs can head a complement gap, not because they can raise to T and let the VP ellipsis apply. Rather, they remain at V and omit a clausal complement, or more precisely, a CP.

- (70) a. When the senator asked him to help with bribery, John **refused** Ø.
 b. I have never learned how to code, but I'd **try** Ø.
 c. No one wanted to be the class representative, so Steve **volunteered** Ø.

Still, these sentences possess some features that typical VP ellipsis lacks. Firstly, they are restricted to a certain set of verbs, which are semantically unpredictable. As Fillmore (1986) head a complement gap while *attempt* cannot; *find out* can be stranded while *discover* cannot; *protest* and *object* can while *oppose* cannot. Secondly, typical ellipsis demands a strict structural parallel to the antecedent clause, but the data in (70) do not seem to follow such restriction. Not only the stranded verbs are not identical to the antecedent clause, but the elided material can slightly differ, as in (70b), [*to learn how to code*] cf. [*learned how to code*]. Hence, these cases are distinguished from typical ellipsis and are named null complement anaphora (NCA). Some of their notable characteristics include –

- a. allowing non-linguistics, pragmatic **antecedents**
 - b. (the stranded verbs) being free from **Verbal Identity Requirement**
 - c. tolerating structurally **mismatch** with the antecedents
 - d. unable to be **extracted** out of the gap
 - e. restricted to a **limited** set of verbs
 - f. **erratic** permission of verbs to be stranded, which has been attributed to lexical properties
- (Grimshaw, 1979; Depiante, 2000, and others)

²⁵ Other NCA-licensing predicates, noted in Depiante's (2019) review, include *refuse*, *suppose*, *agree*, *approve*, *volunteer*, *try*, *inquire*, *find out*, *promise*, *accept*, *concur*, *protest* and *object*. Most of them can be common short phrases without an overt complement, e.g. *I refuse*, *I suppose*, *I agree*, *I volunteer*, *I'll try*, *I accept*, *I promise*. Thus, some may doubt they are in their intransitive usage, e.g. Napoli (1983). Still, these predicates must refer to something in the conversational context, to which the speaker conveys his position, i.e. a discourse antecedent. So are my response to the Chinese verbs *xiangxin*, *yiyu*, *huaiyi*, *zhidao* (cf. 我相信, 我猶豫, 我懷疑, 我知道), in 3.3.2. These verbs are usually stative verbs related to attitude or mental activities.

Earlier in 1976, Hankamer and Sag have established the framework of surface / deep anaphora, which can accommodate ellipsis to the former and NCA to the latter, as reviewed in 2.5.

Chinese V-stranding clausal complement gaps stand a good chance to be NCA since the stranded verbs are not bound by the Verbal Identity Requirement (**feature (b)**). They need not strictly parallel with the antecedent clause, either, as represented in (71), cf. (70). An extreme case can be (72), in which some parts of the antecedent, i.e., the negation, is absent in the interpretation of the complement gap. The fact that some null clausal gaps are found ill-formed may also add weight to this possibility, e.g., data (52) on page 37 is rejected even with the aid of aspectual markers (with **feature (e)**).

- (71) a. 媽媽要小明去倒垃圾，但他拒絕了 Ø
mama yao Xiaoming qu dao lese, dan ta gugue le [PRO [CP]]
 Mom ask go take.out trash but he refuse PERF
 ‘Mom asked Xiaoming to take out the trash, but he refused.’
- b. 我還沒學過寫程式，但我想試試 Ø
wo haimei xue-guo xie chengshi, dan wo xiang shishi [PRO [CP]]
 I yet-NEG learn-PERF write codes but I want try
 ‘I haven’t learned how to write codes, but I want to try.’
- c. 他們找不到人當班長，所以小美自願 Ø
tamen zhao-bu-dao ren dang banzhang, suoyi Xiaomei ziyuan []
 they find-NEG person to.be class.leader so volunteer
 ‘They couldn’t find someone to be the class leader, so Xiaomei volunteered.’
- (72) 小貓鑽不出籠子，但小老鼠成功 Ø 了
xiao mao zuan-bu-chu longzi, dan xiao laoshu chenggong [] le
 little cat sneak-NEG-out cage but little mouse succeed PERF
 ‘The little cat couldn’t sneak out of the cage, but the little mouse succeeded.’

Cheng (2013:250) admits the resemblance between Chinese null CPs and NCA in respect of their inability to be extracted. However, he would not equate the two, considering

that the Chinese null CPs are too productive for the English NCA, as shown in (73), cf.

feature (d). He supposes that the Chinese V-stranding clausal gaps are still a kind of deep anaphora, but a kind different from NCA. Aoun and Li (2008:262) attribute the cross-linguistic difference to the requirement of **overtly realizing the accusative case**, which is enforced on English but not on Chinese.

- (73) a. 小明提議舉辦員工旅遊，上司同意/批准/許可 Ø 了
Xiaoming tiyi juban yuangong luyou,
 propose host staff travel
shangsi tongyi / pizhuen / xuke [] le
 superior agree / approve PERF
 ‘Xiaoming proposed a trip hosted by the company. The supervisor approved.’
- b. 小明沒發現/察覺這個合約有漏洞，但我發現 Ø 了
Xiaoming mei faxian / chajue zhe-ge heyue yio lodong,
 NEG find aware this contract have defect
dan wo faxian le []
 but I find PERF
 ‘Xiaoming didn’t find the loopholes in the contract, but I did.’
- c. 小明說我答應要請他吃飯，但我忘記/沒印象/不記得了 Ø
Xiaoming shuo wo daying yiao qing ta chifan,
 say I promise to treat him meal
dan wo wangji / mei yingxiang / bu jide le []
 but I forget / NEG impression / NEG remember
 ‘Xiaoming said I promised to buy him a meal, but I couldn’t remember it.’

Cheng’s defense based solely on *relative productivity* may not be sufficiently plausible.

Hence, I’d provide more evidence to render support to set Chinese null CPs apart from NCA.

Firstly, the illicit stranded verbs in (52) are predictable for they fall into similar semantic groups, i.e., *renwei/yiwei* ‘assume’ and *cai* ‘guess’; *dashuan* ‘intend’ and *jihua* ‘plan’.

These verbs appear to favor pro-forms over ellipsis as a mean to avoid redundancy. The fact that their near synonyms all display the rejection of heading a gap may stand against **feature (f)** of NCA.

Another counterargument comes from voice mismatch, which targets **feature (c)** and questions its validity as a criterion to distinguish NCA from ellipsis, considering the previous instance in (74). When people were defining NCA, they overlooked that the English VPE, as a kind of surface anaphora, does not always parallel strictly with the surface form of the antecedent clause, either. Hence, just because some Chinese data in (71-73) does not parallel neatly with the antecedent clause, it does not mean they must be deep anaphora.

- (74) The problem was to have been solved, but no one **did** _v[_{VP}~~solve it~~].

The third evidence is the extraction test, i.e., **feature (d)**, whose validity has a wider recognition in the literature. Since NCA does not have an internal syntactic structure, it is assumed that they cannot be extracted out of the empty site (Hankamer and Sag, 1976; Grimshaw, 1979; Depiante, 2001; Haynie, 2010). For instance, (75) shows that NCAs disallow overt wh-movement and topicalization out of the empty site. Without a syntactic structure at LF, interpretations of the null CP/TP complements are supposed to be based on pragmatic or discourse contexts.

- (75) a. *I know which room John volunteered to clean but I don't know which area Bill **volunteered** [~~to clean~~].
 b. *I guess the small bag John will volunteer to carry and the heavy box he will **refuse** [~~to carry~~].

To test the existence of an inner structure in the V-stranding CP gap, one must employ a complex paradigm like (76), in which some parts of the null complements are topicalized; the

others remain in the gap. (76) are unextractable while the rejection of (77) meets the original predictions. It is especially queer that (76a) and (77b) strand the same verb *xiang*.

- (76) a. 我知道哪部電影 John 會想看，但我不知道哪個 Bill 會想 [看] 耶

wo zhidau nabu dianying John hui xiang kan,

I know which film will want watch

dan wu bu zhidau na-ge Bill hui xiang [kan-ti] ye

but I NEG know which.one will want PART

‘I know which film John will want to watch, but I don’t know which one Bill will want to watch.’

- b. 我猜這個袋子 John 會自願拿，那個大箱子他會拒絕 [拿]

wo cai zhe-ge daizi John hui ziyuan na,

I guess this bag will volunteer take

na-ge da xiangzi ta hui juje [na-ti]

that big carton he will refuse

‘I guess John will volunteer to take this bag and refuse to take that big carton.’

- (77) a. *我知道哪輛車 John 最後買了，但我不知道哪輛車 他當初想 [買/要]

wu zhidau naliang che John zuihuo mai le,

I know which car finally buy PERF

dan wo bu zhidau na-liang che ta dangchu xiang [mai-ti]

but I NEG know which car he initially want

‘I know which car John finally bought, but I don’t know which car he initially wanted.’

- b. *我知道哪個房間 John 要掃，但我不知道哪個區域 Bill 打算 [掃]

**wu zhidau na-ge fangjian John yiao sau,*

I know which.one room is.going.to clean

dan wu bu zhidau na-ge quyu Bill dasuan []

but I NEG know which.one zone plan

‘*I know which room John is going to clean, but I don’t know which zone Bill plans to [].’

The conflicted phenomenon concurs with Landau's (2020) supposition of a possible division inside NCA – some are extractable and others are not. Following him, the extractable cases in (76) would be assumed to have internal structures and can be covered in the scope of argument ellipsis again. That is, some of the V-stranding null CPs are NCA (deep anaphora) while others are ellipsis (surface anaphora). Yet, one should be cautious that the judgement on extractability may vary across speakers. It is thus challenging to draw a clear cut amid the hybrid of V-stranding CP gaps. What can be said is perhaps they are represented differently in the grammars of different speakers.



Chapter 4. Conclusion

The thesis explores the possible syntactic categories of null complements in Chinese V-stranding construction, which have been covered under the term ‘argument’ in AE. They are classified as nominal, verbal and clausal. To each category, I present some findings which have not been considered in the original framework.

Firstly, it is shown that without a determiner in the antecedent complement, classifiers and measure words are excluded from interpretation of the gap, leading to bare N/ N’-ellipsis, which I speculate as the default condition for V-stranding null nominal complements. On the other hand, in cases where a determiner is present in the antecedent, the prominence of the D enlarges the scope of deletion to the entire DP.

Secondly, the nonexistence of V-stranding verbal complement gaps is proposed. While omission of the second verb is fairly acceptable, its meaning cannot be interpreted from the empty site, suggesting its absence from both the PF- and LF-level. A possible account is that the co-occurrence of the two verbs is not syntactically required, thus the low motivation to restore the V_2 . Though it is hard to deny that these ‘truly disappear’ materials are inherently optional, the partial reduplication of meaning does shed some lights into the mechanism of ellipsis.

V-stranding null clausal complements are mostly CPs headed by a lexical verb or a deontic modal, with an explicit subject or a PRO. Null TPs are scarce, only restricted to the complements of ECM verbs. Raising verbs in Chinese forbid deletion of their TP complements. Several observations on null clausal gaps are made: (a) the dependence on aspectual markers to render the remnant grammatical, (b) the parallel with short answers and (c) the freedom of stranded verbs from the Verbal Identity Requirement.

Moreover, I address the possibility of some null CPs being NCA, due to the affinity in the flout of Verbal Identity Requirement of the stranded. In defense of the ellipsis analysis, I show that they differ from NCA in that (a) the permission for verbs to strand a clausal gap is predictable and that (b) some of the null CPs are in fact extractable. Also, data with voice mismatch suggests that syntactic inconsistency with the antecedent alone does not warrant NCA. It is concluded that null clausal complements may comprise a blend of surface/deep anaphora, with some of them being unextractable and others extractable, following Landau's (2020) speculation.

In sum, the thesis aligns with Ai (2006), Cheng (2013), Wu (2016) and Landau (2020) that Chinese V-stranding complement gaps should be treated with a mixed approach, i.e., LF-copying/PF-deletion, VPE/AE, surface/deep anaphora. Its major contributions are to supplement empirical generalizations on the V-stranding constructions and to add some insights to the existing AE account. However, as a recently-developed branch of the VPE analysis, AE still has some theoretical insufficiency that awaits to be constructed. Whether it has other syntactic operations diverging from VPE, aside from the scope of deletion, requires further research efforts.

Cited Works

- Ai, R. R. (2006). *Elliptical predicate constructions in Mandarin*. Doctoral Dissertation, Harvard University.
- Aoun, J. and Li, A. (2008). Ellipsis and missing objects. In *Foundational Issues in Linguistic Theory*, 251-274. The MIT Press.
- Chan, A. Y. W., & Chen. (2002). SYNTACTIC STRUCTURES OF CHINESE SERIAL VERB CONSTRUCTIONS. *Journal of Chinese Linguistics*, 30(1), 16–38.
- Chao, W. (1987). On Ellipsis. Doctoral Dissertation, University of Massachusetts, Amherst
- Cheng, L. and Sybesma, R. (1999). Bare and not-so-bare nouns and the structure of NP. *Linguistic Inquiry* 30: 509-542.
- Cheng, J. (2011). Argument Ellipsis in Mandarin Chinese. In Proceedings of the 23rd North America Conference on Chinese Linguistics (NACCL-23)
- Cheng, Hsu-Te. (2013). Argument ellipsis, classifier phrases, and the DP parameter. Doctoral dissertation, University of Connecticut, Storrs.
- Chung, S., Ladusaw, W., and McCloskey, J. (1995). Sluicing and logical form. *Natural Language Semantics* 3: 239-282.
- Chung, S. (2013). Syntactic identity in sluicing: How much and why. *Linguistic Inquiry*, 44(1), 1-44.
- Culicover, P. and Jackendoff, R. (2005). *Simpler syntax*. Oxford: Oxford University Press.
- Dagnac, A. (2010, September). Modal ellipsis in French, Spanish and Italian Evidence for. In *Romance Linguistics 2008: Interactions in Romance. Selected papers from the 38th Linguistic Symposium on Romance Languages (LSRL), Urbana-Champaign, April 2008* (Vol. 313, p. 157). John Benjamins Publishing.
- Depiante, M. A. (2000). The syntax of deep and surface anaphora: A study of null complement anaphora and stripping/bare argument ellipsis. Doctoral Dissertation, University of Connecticut.
- Fiengo, Robert, and Robert May. (1994). *Indices and Identity*. Cambridge, Mass.: MIT Press.
- Fillmore, C. J. (1986). Pragmatically controlled zero anaphora. In *Annual Meeting of the Berkeley Linguistics Society* (Vol. 12, pp. 95-107).
- Goldberg, L. (2005). Verb-Stranding VP Ellipsis: A Cross-Linguistic Study. Doctoral dissertation, McGill University, Montreal.

- Gribanova, V. (2013). A new argument for verb-stranding verb phrase ellipsis. *Linguistic Inquiry*, 44(1), 145-157.
- Grimshaw, J. (1979). Complement selection and the lexicon. *Linguistic inquiry*, 10(2), 279-326.
- Hankamer, J. and I. A. Sag (1976). Deep and surface anaphora. *Linguistic Inquiry* 7:391-426.
- Hankamer, J. (1979). *Deletion in coordinate structures*. Garland.
- Haynie, H.J. (2010). What is Null Complement Anaphora? A syntactic account can explain. Ms. University of California at Berkeley.
- Hardt, D. (1993). Verb phrase ellipsis: form, meaning and processing. Doctoral Dissertation, University of Pennsylvania.
- Her, O. S. (2012). Structure of classifiers and measure words: A lexical functional account. *Language and Linguistics*, 13(6), 1211.
- Hoji, Hajime. (1998). Null object and sloppy identity in Japanese. *Linguistic Inquiry* 29: 127-152.
- Hsieh, Miao-Ling. (2008). The Internal Structure of Noun Phrases in Chinese. Taipei: Crane.
- Huang, J. (1982). Logical relations in Chinese and the theory of grammar. Doctoral Dissertation, MIT.
- Huang, J. (1984). On the distribution and reference of empty pronouns. *Linguistic Inquiry* 15: 531-574.
- Huang, J. (1987). Remarks on empty categories in Chinese. *Linguistic Inquiry* 18: 321- 337.
- Huang, J. (1988). *Wo pao de kuai* and Chinese phrase structures. *Language* 64: 274-311.
- Huang, J. (1991). Remarks on the status of the null object. In *Principles and Parameters in Comparative Grammar*, ed. Robert Freidin, 56-76. Cambridge, Mass.: MIT Press.
- Kehler, A. (2002). *Coherence, reference, and the theory of grammar* (pp. 172-177). Stanford, CA: CSLI publications.
- Kim, S.-W. (1999). Sloppy/strict identity, empty objects, and NP ellipsis. *Journal of East Asian Linguistics* 8: 255-284.
- Landau, I. (2020). On the nonexistence of verb-stranding VP-ellipsis. *Linguistic Inquiry*, 51(2), 341-365.
- Li, Hui-ju Grace. (2002). Ellipsis Constructions in Chinese. Doctoral dissertation, University of Southern California, Los Angeles.
- Li, C. and S. Thompson. (1986). Mandarin Chinese: a functional reference grammar. University of California Press
- Li, Y. H. A., & Wei, T. C. (2014). Ellipsis. *The handbook of Chinese linguistics*, 275-310.

- Lin, J. W., & Tang, C. C. J. (1995). Modals as verbs in Chinese: A GB perspective. *The Bulletin of the Institute of History and Philology*, 66(1), 53-105.
- Merchant, J. (2001). *The Syntax of Silence*. Oxford: Oxford University Press.
- Merchant, J. (2008). An asymmetry in voice mismatches in VP-ellipsis and pseudogapping. *Linguistic Inquiry* 39: 169-179
- Merchant, J. (2013). Voice and ellipsis. *Linguistic Inquiry*, 44(1), 77-108.
- Osborne, T., & Liang, J. (2015, August). A survey of ellipsis in Chinese. In *Proceedings of the Third International Conference on Dependency Linguistics (Depling 2015)*, 271-280.
- Otani, K. and Whitman, J. (1991). V-raising and VP-ellipsis. *Linguistic Inquiry* 22: 345- 358.
- Oku, S. (1998). *A theory of selection and reconstruction in the minimalist perspective*. Doctoral Dissertation, University of Connecticut.
- Sag, Ivan. (1976). *Deletion and Logical Form*. Doctoral dissertation, MIT. New York: Garland Press.
- Sailor, C. (2009). Tagged for deletion: A typological approach to VP ellipsis in tag questions. *UCLA Master's thesis*.
- Saito, M. (2004). Ellipsis and pronominal reference in Japanese clefts. *Nanzan Linguistics* 1, 21-50. Center for Linguistics, Nanzan University.
- Saito, M. (2007). Notes on East Asian argument ellipsis. *Language Research* 43: 203-227.
- Soh, H. L. (1998). *Object scrambling in Chinese*. Dissertation. MIT, Cambridge, MA.
- Soh, H. L. and Gao, M. (2006). Perfective aspect and transition in Mandarin Chinese: An analysis of double -le sentences. In: *Proceedings of 2004 Texas Linguistics Society Conference: Issues at the Semantics-Pragmatics Interface*, P. Denis, E. McCready, A. Palmer, and B. Reese, (eds.) 107–122. Somerville: Cascadilla Press.
- Soh, H. L. (2007). Ellipsis, last resort, and the dummy auxiliary shi ‘be’ in Mandarin Chinese. *Linguistic Inquiry*, 38(1): 178-188.
- Soh, H. L. (2009). Speaker presupposition and Mandarin Chinese sentence-final-le: a unified analysis of the “change of state” and the “contrary to expectation” reading. *Natural Language & Linguistic Theory*, 27(3), 623-657.
- Sybesma, R. (1999). *The Mandarin VP*. Dordrecht: Kluwer.
- Van Valin Jr, R. D. (2005). The structure of complex sentences. In *Exploring the syntax-semantics interface*. Cambridge University Press. 183-239.

- Wei, Ting-Chi. (2010). A movement and resumptive approach to VP-ellipsis in Mandarin Chinese. *Tsing Hua Journal of Chinese Studies*, 40(1), 113-158.
- Wu, H. H. I. (2016). On the (non)-existence of verb-stranding ellipsis in Chinese. *International Journal of Chinese Linguistics*, 3(1), 79-100.
- Xu (2003). Remarks on VP-ellipsis in disguise. *Linguistic Inquiry* 34:163–171.

