

Ellipsis in the vP domain in Mandarin and Xhosa

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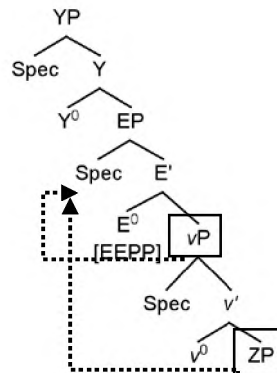
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Abstract

This thesis provides a unified analysis of ellipsis in the ν P domain in two typologically different languages, Mandarin and Xhosa from a generative perspective. It starts with the V-stranding Verb Phrase Ellipsis (VPE) assumption and shows that Mandarin and Xhosa do not have V-stranding VPE. The evidence for this is that in both languages, the constituents that remain in ν P obligatorily are not allowed to be deleted, whereas the ones that can/must move out of ν P can be deleted. The deleted constituents display the characteristics of PF-deletion, i.e. they have an internal syntactic structure.

Based on the parallel between movement and ellipsis of the ν P-internal constituents, I propose the Ellipsis EPP Hypothesis to account for ellipsis in the ν P domain. The Hypothesis predicts that there is an Ellipsis Phrase at the left periphery of ν P. The EP bears an Ellipsis-EPP (EEPP) feature, which must be satisfied. Maximal phrases in the c-command domain of EP are all potential candidates for satisfying the EEPP feature by moving to [Spec, EP]. However, only the phrases that are allowed to move out of ν P can move to [Spec, EP] as EP is located above ν P. Moreover, the movement to [Spec, EP] is subject to the syntactic and semantic restrictions in structure-building in that ellipsis is one operation in the course of structure-building and the derivation will continue after ellipsis takes place. The EEPP feature renders an XP in the specifier phonetically empty and syntactically frozen; therefore, a constituent will be deleted as soon as it moves to [Spec, EP]. The Hypothesis is schematically represented below.



The Ellipsis EPP Hypothesis adequately accounts for the ellipsis of various ν P-internal constituents – NPs, DPs, infinitive complements and CP complements - in both Mandarin and Xhosa. At the same time, it reveals the reasons why ν P is precluded from being elided in these two languages. In Mandarin ν P moves to [Spec, AspP₁] to check the uninterpretable [asp] feature and in Xhosa ν P moves to [Spec, FocP] to realize the focus; consequently, ν P may not move to [Spec, EP] for ellipsis.

DECLARATION

I the undersigned, hereby declare that this thesis is my own original work and has not, in its entirety or part, been submitted at any university for a degree.

SIGNED:.....

DATE:

Acknowledgements

When people first met me, no matter whether Chinese or South Africans, they always asked me: why do you study Xhosa? To many people, it sounds strange that a Chinese girl would spend years in studying an African language. Even myself, I never thought that I would spend seven years in Grahamstown studying African linguistics. I always planned to do a PhD, but South Africa and Xhosa were far beyond my blueprint. I had no idea about African languages and cultures at all when I first arrived. But I was fascinated by Xhosa as soon as I started to learn it. The more I learnt, the more I wanted to learn. When I decided to continue doing my PhD at Rhodes after completing my Masters on comparing the temporal relations in Xhosa and Mandarin, I knew that my fate was sealed. I have been always obsessed by Syntax. Chinese and Xhosa provide me interesting access to it.

I am very lucky that there are so many people who encourage me, enlighten me and guide me in my journey to pursuing my academic career. I am deeply indebted to them and would like to express my sincere gratitude to them.

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Abbreviations

Following *the Leipzig Glossing Rules* and the standard practice in Mandarin and Bantu literature, the abbreviations used in this thesis are shown as follows.

1pl	First Person Plural
1sg	First Person Singular
2sg	Second Person Singular
3pl	Third Person Plural
3sg	Third Person Singular
appl	Applicative
aug	Augment
BA	Marker of the <i>ba</i> construction in Mandarin
caus	Causative
CL	Classifier
comp	Complementizer
def	Definite
dem	Demonstrative
det	Determiner
dis	Disjoint Form
DP	Determiner Phrase
dur	Durative
exis	Existential
exp	Experiential Aspect Marker
expl	Expletive
F	Feminine
foc	Focus
fut	Future Tense
fv	Final Vowel
gen	Genitive
inf	Infinitive
LF	Logical Form
loc	Locative
Mod	Modal

NP	Noun Phrase
Num	Numeral phrase
obj	Object
om	Object Marker
pass	Passive
PF	Phonetic Form
pfv	Perfective
poss	Possessive
pp	Preposition Phrase
prf	Perfect Tense/Aspect
prog	Progressive
prs	Present Tense
pst	Past Tense
ptcp	Participial
Q	Question
reci	Reciprocal
rel	Relative
rs	Relative Suffix
SFP	Sentence-Final Particle
sm	Subject Marker
sujv	Subjunctive
top	Topic
vP	Verb Phrase

Note that in this thesis: (i) Noun Class in Xhosa is marked by numbers. (ii) I do not distinguish Noun Class1a from Noun Class1. (iii) The tones are not marked either in Mandarin or Xhosa examples.

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Chapter 1 Introduction and Proposal

1.0 Introduction

The goal of this thesis is to examine the phenomenon of ellipsis, more particularly, ellipsis that takes place in the ν P domain in two typologically distinct languages: an isolating language on one hand (Mandarin Chinese) and an agglutinative language on the other hand (Xhosa, which belongs to the S40 group, i.e. the Nguni family, of the revised Guthrie classification of Bantu languages). The thesis starts with the ν P-ellipsis assumptions in literature and argues that there is no ν P-ellipsis in Mandarin and Xhosa. It will go on to show that there are ν P-internal constituents that can be elided and that the elided constituents are instances of PF-deletion (i.e. deletion at Phonetic Form). I then propose that there exists an Ellipsis Phrase (EP) in the left periphery of ν P, which bears an [Ellipsis EPP] feature. A constituent will be deleted as soon as it moves to the specifier of the EP to satisfy the [Ellipsis EPP] feature. I further demonstrate that the Ellipsis EPP Hypothesis adequately accounts for the ellipsis of various ν P-internal constituents in both Mandarin and Xhosa.

More specifically, this study first focuses on the paradox of whether there is ν P ellipsis in Mandarin and Xhosa. ν P ellipsis (VPE henceforth) refers to a type of constructions in which a verb phrase (i.e. ν P¹) is deleted and a linguistic antecedent for the missing ν P is often found in surrounding discourses. This phenomenon typically occurs in coordinate structures and the target is the ν P in the second conjunct. For example, in English, ν P can be deleted when it is governed by a modal, the supporting auxiliary *do* or the infinitival *to* (see Bresnan 1976, Sag 1976, Zagana 1982, Lobeck 1995 and Johnson 2001 among others), as illustrated in (1).

(1) John likes apples and Mary does [_{ν P} like apples] too. [English]

In (1), the ν P is elided and the semantically inert, supporting auxiliary *do* is inserted to govern the ellipsis site.

¹ The elided verb phrase in English is commonly marked as the big VP in literature. Li (2002) and Ai (2006) claim that in English-type VPE, it is the little ν P that is deleted, whereas in Mandarin it is the big VP that is deleted. In order to clarify the elided site, in this thesis, I mark the elided verb phrase in English and V-stranding VPE languages as ν P. The big VP here refers to the verb stem, to which the Light verb in Mandarin and the derivational morphemes in Xhosa are attached.

Merchant states that “for reasons that remain unclear, VP-ellipsis as attested in English seems to be quite rare among the world’s languages” (Merchant 2001: 2-3). Unlike English, in Mandarin and Xhosa, while the object can be deleted in the target clause, the verb must remain overt. The counterparts of (1) in these two languages are shown in (2) and (3), respectively.

(2) a. *John xihuan pingguo, Mary ye [_{VP} ~~xihuan pingguo~~].

John like apple Mary also like apple

b. John xihuan pingguo, Mary ye [_{VP} xihuan [_{DP} pingguo]].

John like apple Mary also like apple

‘John likes apples and Mary does too.’

[Mandarin]

(3) a. *U-John u-thand-a a-ma-Apile, u-Mary na-ye [~~u-thand-a a-ma-Apile~~].

aug-1.John sm1-like-fv aug-6-apple aug-1.Mary and-1 sm1-like-fv aug-6-apple

b. U-John u-thand-a a-ma-Apile, u-Mary na-ye u-ya-wa-thand-a [_{DP} a-ma-Apile].

aug-1.John sm1-like-fv aug-6-apple aug-1.Mary and-1 sm1-dis.prs-om6-like-fv aug-6-apple

‘John likes apples and Mary does too.’

[Xhosa]

In (2a), the whole *vP* is deleted, and the sentence is thus ungrammatical. The grammatical construction is shown in (2b) where the object is deleted without also deleting the verb. Most studies on VPE in Mandarin (e.g. Huang 1988 1991, Li 2002 and Ai 2006) argue that the construction shown in (2b) is genuine VPE, but that the verb moves out of *vP/VP* before VPE takes place and it thus escapes ellipsis. The sentences in (3) illustrate that the construction in Xhosa is similar to its Mandarin counterpart in terms of the verb-stranding and object DP deletion. However, in Xhosa, the object agreement is required in the target clause (3b).

The similar pattern has been found in the so-called V-stranding VPE languages like Hebrew and Irish (e.g. Doron 1990, 1998 and Goldberg 1998, 2005 for Hebrew; McCloskey 1991, 1996 and Goldberg 2005 for Irish; McShane 2000 and Gribanova 2013 for Russian and Toosarvandani 2006, 2009 for Farsi). In those languages, the verb moves out of *vP* before *vP* is deleted and it therefore survives ellipsis. V-stranding VPE is represented in (4).

(4) Ehud hizmin otanu le-mesiba,
 Ehud invite.pst.3.m.sg acc.us to-party²
 ve-ani xoševet še-Dani gam hizmin [~~otanu le-mesiba~~]
 and-I think that-Dani also invite.pst.3.m.sg acc.us to-party
 ‘Ehud invited us to a party, and I think that Dani also invited [us to a party].’

[Hebrew, Goldberg 2005: Chapter 1 (21)]

In (4), while the object and the locative are deleted, the verb remains overt in the second conjunct. Goldberg (2005) claims that in Hebrew, the verb moves to I to check the [Infl] feature and it therefore escapes VPE.

The similarities between the construction represented in (2) and (3) and the V-stranding VPE represented in (4) seem to suggest that the constructions in Mandarin and Xhosa are instances of Verb-stranding VPE. However, as it turns out, this thesis shows that VP/vP is not allowed to be deleted in either Mandarin or Xhosa. This means that the construction represented in (2) and (3) is not V-stranding VPE. For the purpose of convenience and as a theory-needed description, I dub the construction illustrated in (2) and (3) “the putative VPE construction” in this thesis.

Although VP/vP cannot be elided, there are indeed constituents missing in the putative VPE construction in both Mandarin and Xhosa. I conduct a thorough investigation on the missing elements. The findings show that they are instances of PF-deletion (i.e. ellipsis). I provide a preliminary analysis of ellipsis in Mandarin and Xhosa by proposing the Ellipsis EPP Hypothesis. This hypothesis stipulates that there exists an Ellipsis Phrase in the vP left periphery. An XP will be deleted as soon as it moves to [Spec, EP].

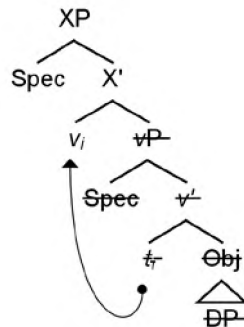
This chapter is organized as follows. Section 1.1 presents the research questions of this thesis. Section 1.2 provides an overview of the theoretical frameworks, which form the base of the analysis in this research. Section 1.3 describes the preliminary analysis of ellipsis in the vP domain - the Ellipsis EPP Hypothesis proposed in this thesis. Section 1.4 discusses the methodology used in this study. Section 1.5 outlines the structure of this thesis and briefly describes the content covered in each of the following chapters.

² The glossary of examples cited from others’ work is slightly modified when it is different from the glossary system adopted in this thesis.

1.1 Research questions

In literature, while the majority of linguists consider the putative VPE construction in Mandarin (cf. (2b)) to be V-stranding VPE (e.g. Huang 1988 1991, Li 2002, Ai 2006, Su 2008 and Wei 2010), others argue that it is not VPE, but a Null Object construction in which the object is a deep anaphora like *pro* (e.g. Xu 2003). Although, to the best of my knowledge, no research on ellipsis has been conducted in Xhosa, V-stranding VPE has been attested in Bantu languages such as Swahili and Ndendeule (Ngonyani 1995, 1996a b, 1998 and Goldberg 2005). On account of the cognate between Xhosa and those Bantu languages, it is plausible to assume that the construction presented in (3b) is an instance of V-stranding VPE. Providing that these assumptions hold true and the putative VPE construction in Mandarin and Xhosa is V-stranding VPE, i.e. they are genuine VPE, but the verb moves out of *vP* for some independent reasons and escapes ellipsis, then the rest of the *vP*-internal constituents should be deleted in the VPE construction unless they also move out of *vP*. This is schematically represented in (5).

(5) The structure of Verb-stranding VPE



The structure in (5) illustrates that the verb moves to a higher position and consequently escapes ellipsis. The object remains inside *vP* and it must be deleted when VPE occurs.

However, in the Mandarin putative VPE construction, the constituents which must remain in the *vP*, are prohibited from being elided, whereas the ones, which can move out of *vP*, can be elided. This parallel is illustrated in (6).

(6) The parallel between movement and ellipsis in Mandarin

vP-internal constituents	Movement out of vP	Ellipsis
Indefinite objects	×	×
Manner adverbials	×	×
Postverbal adjuncts	×	×
<i>De</i> -clause complements	×	×
Definite objects	√	√
NP complements of objects	√	√
Infinitive complements	√	√
CP complements	√	√
vP complements of modals	√	√

The same pattern is found in Xhosa. While the constituents that must/can be dislocated out of vP can be elided, the constituents that remain inside vP are precluded from deletion, as illustrated in (7).

(7) The parallel between movement and ellipsis in Xhosa

	Conjunct form		Disjunct form	
	Movement out of vP	Ellipsis	Movement out of vP	Ellipsis
Objects without OM	×	×	N/A ³	N/A
Objects with OM	√	√	√	√
NPs in the objects	√	√	√	√
Manner adverbials	×	×	×	×
Infinitive complements	×	×	√	√
CP complements	×	×	√	√

The table in (6) and (7) show that in both Mandarin and Xhosa, the constituents that are not allowed to move out vP cannot be deleted and the ones that must/can move out of vP can be deleted. This is opposite to the prediction of the V-stranding VPE assumption. If vP is elided, the constituents that remain inside vP

³ In the disjunct form, the verb is the only element left in the vP domain. The object is required to be dislocated out of vP via object marking (see Section 6.1.2.2).

obligatorily should be deleted as well. This contradiction leads us to conclude that ν P cannot be elided in these two languages.

The missing constituents in the putative VPE construction, such as objects and CP complements, display the properties of PF-deletion (i.e. ellipsis) in both Mandarin and Xhosa, as shown in (8).

(8) Properties of the missing constituents in the ν P domain in Mandarin and Xhosa

Properties	Mandarin	Xhosa
Sloppy readings and mixed readings	√	√
Extraction	√	N/A
Providing antecedents for pronominal anaphors	√	√
Island effects	×	×

The properties inventoried in (8) suggest that the missing constituents have an internal syntactic structure. In other words, they are deletion at PF. Consequently, interesting questions arise:

- (i) Why can ν P not be deleted in Mandarin and Xhosa?
- (ii) How is the ellipsis of ν P-internal constituents derived? Is there a unified mechanism resulting in the ellipsis of those various constituents, or they are derived by different mechanisms?
- (iii) What mechanism triggers the parallel between ellipsis and movement illustrated in (6) and (7)?
- (iv) To what extent are the mechanisms behind the elided constituents in these two languages comparable to each other? What are the syntactic mechanisms, which result in these similarities in terms of ellipsis in Mandarin and Xhosa?

Ellipsis in Mandarin and Xhosa is still less studied descriptively and theoretically. It has not made as big an impact on the syntactic theory. This thesis sets out to find out the answers for these questions. Through answering these questions, I hope to enrich descriptive studies and theoretical analyses of ellipsis with comparative data from these two less-studied languages, thereby making a contribution to the syntactic theory.

1.2 Framework

In this thesis, I conduct the analyses within the Minimalist Program framework (Chomsky 1995, 1999, 2000). Particularly, I adopt the operation Move and Merge to explore how ellipsis is derived in the course of structure-building in Mandarin and Xhosa. In addition, I follow Kayne's (1994) Linear Correspondence Axiom (LCA) in my analyses. This section provides an overview of these frameworks (for an in-depth discussion see among others Chomsky 1995, 2000 and Kayne 1994).

1.2.1 Merge and Move

In the Minimalist Program, syntax is considered a purely derivational system. The two core operations in structure-building are Merge and Move. Merge is "an indispensable operation of a recursive system ... which takes two syntactic objects A and B and forms the new object $G = \{A, B\}$ " (Chomsky 1999: 2). Move is an operation that occurs when a constituent travels from a low position to a higher position in the syntactic structure. Move is driven by formal features.

1.2.2 Motivation for Move

Within the Minimalist Program framework, a lexical constituent can move to a functional projection only if there is some formal feature which need be checked. The Full Interpretation Principle requires that all strong formal features must be deleted before Phonetic Form (PF) in that they cannot be interpreted at PF. The derivation of a structure would crash if there existed some unchecked formal feature at PF. Move enables the features of the moved constituent to check those of the landing site in the functional projection. The formal features of a functional head will be deleted after they are checked.

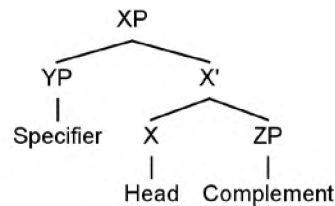
1.2.3 Directionality of Move

Kayne proposes that asymmetric c-command directly maps into linear order, which is well known as the "Linear Correspondence Axiom (LCA)" (Kayne 1994: 6). Here, it should be noted that in Kayne's definition, c-commands if and only if:

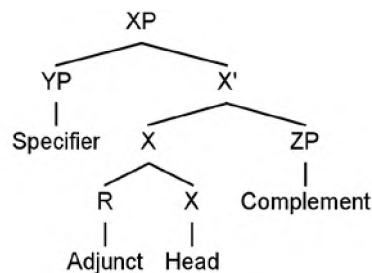
- (9) X c-commands Y iff X and Y are categories and X excludes Y and every category that dominates X dominates Y. (Kayne 1994: Chapter 3 (3))

From LCA, Kayne claims that the specifier always precedes its head and the head always precedes its complement (cf. (10)). Adjuncts appear to the left of the node to which they adjoin (cf. (11)).

(10) The Specifier-Head-Complement order



(11) Left-adjoining of adjuncts



LCA requires that Move is always leftwards and upwards. A constituent moves from the lexical domain (i.e. vP) at the bottom to the functional domain higher up in the syntactic tree.

In this thesis, I follow Kayne's LCA to analyse Mandarin and Xhosa data. Theoretically, LCA has been proved to be explanatorily adequate. It derives the core properties of X-bar theory and introduces restrictions on the possible phrase structures and derivations (See Cinque 1996 for more details). Compared with other versions of the Generative theory like the Principle and Parameter, LCA is more restrictive. It gives a principled limit to the linear order of specifiers, heads and complements and enforces a strict correspondence between the linear order and syntactic structure. Empirically, Kayne (1994) provides an adequate explanation of Right Node Raising (pp.67), Heavy NP shift (pp.71), Right Dislocation (pp.78) and Relative Clause (pp.86) within LCA. This axiom has also been adopted to analyse various languages with intriguing results. LCA runs into some problems when it comes to the linear order in Bantu languages. It has been argued that the placement of focused/topicalized constituents and the calculation of agreement relations violate the requirements of LCA (e.g. Ndayiragije 1999 and Buell et al. 2011). However, as it turns out, this thesis shows that the free order is not *that* free and the linear order in Xhosa is encoded in the Syntax.

As my main concern in this thesis is ellipsis, I will not go into the ins and outs of the issue of how Minimalist Program works in Mandarin and Xhosa Syntax. Rather, I focus on exploring the derivation of ellipsis by adopting the key operations Merge and Move and Kayne's (1994) LCA.

1.3 Theoretical Proposal: Ellipsis EPP Hypothesis

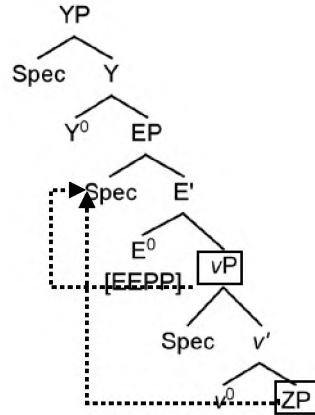
The investigation on the putative VPE construction in Mandarin and Xhosa shows that vP cannot be deleted in these two languages. More specifically, the constituents that must remain inside vP are not allowed to be elided, whereas the constituents that must/can move out of vP can be deleted. The elided constituents display the properties of PF-deletion. For example, an elided constituent may have a sloppy reading and a mixed reading. The construction containing an elided constituent is insensitive to the island effects. Based on these properties, I propose the Ellipsis EPP Hypothesis to account for how ellipsis in the vP domain is derived in these two languages. The Hypothesis is shown in (12).

(12) Ellipsis EPP Hypothesis

- (i) There is an Ellipsis Phrase (EP) at the left periphery of vP and the EP has an Ellipsis EPP (EEPP) feature. The EEPP feature renders an XP in the specifier phonetically empty and syntactically frozen.
- (ii) Maximal phrases in the c-command domain of the EP are all potential candidates for satisfying the [EEPP] feature by the Specifier-Head relation (i.e. moving to [Spec, EP]). However, only the phrases that are allowed to move out of vP can move to [Spec, EP] as EP is located above vP .
- (iii) The movement to [Spec, EP] is subject to the syntactic and semantic restrictions in structure-building as ellipsis is one operation in the course of structure-building and the derivation will continue after ellipsis takes place.
- (iv) Ellipsis occurs as soon as the [EEPP] feature is satisfied.
- (v) No ellipsis takes place if the EP does not occur structurally.

The Hypothesis is schematically represented in (13).

(13) The structure of Ellipsis EPP Hypothesis



Given that the syntactic and semantic requirements are met, all maximal phrases in the c-command domain of the EP can move to [Spec, EP] to satisfy the EEPP feature. The EEPP feature renders phonetic insertion and further syntactic operations impossible; therefore, an XP becomes phonetically empty and syntactically frozen when it moves to [Spec, EP]. As Chapter 5 and Chapter 8 will show, the Ellipsis EPP Hypothesis yields the grammatical derivations of ellipsis and rules out the ungrammatical ones in both Mandarin and Xhosa.

1.4 Methodology

In order to explore the properties of the putative VPE construction in Mandarin and Xhosa, it is necessary to examine a variety of sentences in these two languages. A range of Mandarin sentences were drawn from my own intuitions (being a native speaker of the language), and checked with a wide group of other native speakers for grammaticality. The Xhosa data was obtained through questionnaires and interviews with five L1 speakers.

It should be noted here that in this research I-language (the abstract representation of linguistic knowledge) is the object of study, rather than E-language (the linguistic habits of a community) (Chomsky 1986). One respondent could have been sufficient to provide the data given the fact that the person knows the grammar of the language and it is standard practice within formal linguistics to rely on the intuitions of only one native speaker. However, the present study sought to include a group of respondents just to ensure the accuracy and reliability of the data.

When the initial data was collected, the analysis of the data was conducted based on the aforementioned theoretical frameworks. On this basis, the initial analysis on the putative VPE in Mandarin and Xhosa were proposed, and then more data was collected through the same procedure to test our analysis and predictions. The cyclic model was then repeated until the data was sufficient.

1.5 Overview of the thesis

This thesis is organized as follows. Chapter 2 provides a review of the literature of ellipsis. It starts with reviewing English VPE and V-stranding VPE, followed by the discussion on the theoretical frameworks of ellipsis. The next section describes the debate on the issue of whether Mandarin has VPE or not and the gap that exists in the literature of ellipsis in Xhosa and Bantu languages. By doing this, the problems and the gaps of this topic in these two languages are drawn forth.

Chapter 3 goes on to describe and analyse the putative VPE construction in Mandarin. I first provide a set of arguments and show that the putative VPE construction in Mandarin is not V-stranding VPE. The next section inventories the elidable constituents in the putative VPE construction. The final section exploits various diagnostics to test whether those elided constituents are PF-deletion or deep anaphora. It turns out that they are instances of PF-deletion (i.e. ellipsis).

Chapter 4 starts with the parallel between ellipsis and movement of the ν P-internal constituents in Mandarin. I demonstrate that the elidable constituents can move out of ν P. Based on this parallel, the Ellipsis EPP Hypothesis is proposed. The Hypothesis claims that there exists an Ellipsis Phrase and an XP will be deleted as soon as it moves to [Spec, EP].

Chapter 5 first provides the syntactic structure of the EP and syntactic movements that are directly relevant to the derivation of ellipsis in Mandarin. Next follows the grammatical derivations of ellipsis in the ν P domain. Then I illustrate how the Ellipsis EPP Hypothesis precludes ν P ellipsis when the ν P is not governed by a deontic modal. I further explain the reasons why deontic modals can license ν P ellipsis, whereas epistemic modals cannot. Finally, I demonstrate how the ellipsis of adjunct and the *de*-clause is ruled out within Ellipsis EPP Hypothesis.

In Chapter 6, I compare the Xhosa putative VPE construction with its Mandarin counterpart. It turns out that like Mandarin, ν P may not be deleted in Xhosa. I further present the elidable constituents in Xhosa and show that they are PF-deletion.

Chapter 7 provides the syntactic structure of the ν P left periphery in Xhosa. It starts with an in-depth discussion of the focused site and approaches of focus-marking. By doing this, I propose that there is an FocP at the ν P left periphery in Xhosa and the focused constituents move to [Spec, FocP] via ν P movement to realize focus.

Chapter 8 first provides an overview of the parallel between the constituents that can be deleted and the ones that must/can be dislocated out of ν P. Next follows the demonstration of how various types of ellipsis in the ν P domain are derived in Xhosa.

Finally, Chapter 9 highlights the important conclusions of this thesis by revisiting the research questions.

Chapter 2 Literature Review

2.0 Introduction

Ellipsis is a significant syntactic phenomenon because it “gives an interesting view of the process that structures sentences, and it provides an intriguing testing ground for hypotheses concerning the syntax–semantics interface” (Johnson 2008:1-2). Ellipsis breaks down the correspondence between sound and meaning. Elided constituents do not have a form or sound, yet their meaning must be recoverable. We can identify the underlying structures and explore the process of structure-building through investigating what kinds of constituents can be deleted and under what conditions ellipsis takes place.

Ellipsis, in particular VPE in English, has been studied extensively. Various theoretical frameworks have been proposed based on English data. This chapter provides a brief review of VPE in languages, including English VPE, Modal Complement Ellipsis and V-stranding VPE. Next follows the discussion on the theory of ellipsis. I then show that ellipsis, more precisely VPE, is still less studied descriptively and theoretically in Mandarin and Xhosa and present the problems of the V-stranding VPE assumption in Mandarin, and the gaps of ellipsis in Xhosa through reviewing the literature. This highlights the importance of enriching the descriptive study and theoretical analysis of ellipsis in Mandarin and Xhosa.

This chapter is structured as follows. Section 2.1 reviews English VPE, Modal Complement Ellipsis and V-stranding VPE. Section 2.2 discusses the important theoretical frameworks of ellipsis. Section 2.3 provides an overview of the debates and paradoxes of the putative VPE construction in Mandarin. Section 2.4 reviews the works on V-stranding VPE in Bantu languages and shows the gaps of ellipsis in Xhosa. Finally, a summary of the chapter is provided in Section 2.5.

2.1 VPE in languages

Ellipsis such as Gapping and Sluicing has been found in many languages and it shares some universal properties cross-linguistically (Merchant 2001, 2009). However, VPE displays distinct characteristics from one language to another. In particular, in English VPE is one of the most robust phenomena, whereas in other related Germanic languages like German and Dutch, it has been argued that there is no VPE (Lobeck 1995). More recently, many studies state that VPE exists in various languages, but unlike English VPE, in those languages the verb moves out of *v*P before VPE takes place and it thus escapes ellipsis. This type of

VPE is called the “V-stranding VPE” (Goldberg 2005). In what follows, I briefly review the literature of these two types of VPE.

2.1.1 English-type VPE

VPE in English has been well studied. In fact, the majority of the ellipsis theory is proposed based on English VPE. In the language, provided that the requirements of an antecedent are met, *vP* can be deleted when it is properly governed by the supporting auxiliary *do*, a modal such as *will* and *can* or the infinitival *to* (see Bresnan 1976, Sag 1976, Zagona 1982, Lobeck 1995, Johnson 2001, Merchant 2001, Thoms 2010a and Aelbrecht & Haegeman 2012 among others). *vP* is prohibited from ellipsis if it is not governed by such auxiliaries/modals. The contrast is illustrated in (1) and (2).

- (1) a. John will pass the exam and Mary will [~~*vP* pass the exam~~] too.
b. *John passed the exam and Mary [~~passed the exam~~] too.
- (2) a. John has planned to go to Maldives and Mary has [~~*vP* planned to go to Maldives~~] too.
b. John has planned to go to Maldives and Mary has planned to [~~*vP* go to Maldives~~] too.
c. *John has planned to go to Maldives and Mary [~~has planned to go to Maldives~~] too.
d. *John has planned to go to Maldives and Mary has planned [~~to go to Maldives~~] too.

In (1a), the modal *will* governs the *vP*; the antecedent is provided in the first conjunct. Therefore, VPE is licensed. In (1b), the elided constituent is not properly governed by the supporting auxiliary *do*, a modal or the infinitival *to*. As a result, this sentence is ungrammatical. In (2a) and (2b), the elided *vP* is governed by the auxiliary *has* and the infinitival *to*, respectively; hence, these two sentences are grammatical. In contrast, neither (2c) nor (2d) is grammatical as the elided constituent is not governed by an auxiliary or a modal.

The bulk of the literature (e.g. Ross 1967 1969, Grinder & Postal 1971, Sag 1976, Hankamer & Sag 1976 and Merchant 2008) has shown that that English VPE has the following properties: (i) the elided *vP* may have a sloppy reading; (ii) extraction out of the elided *vP* is allowed; (iii) the elided *vP* can provide a syntactic antecedent for pronominal anaphora; (iv) VPE can appear in syntactic islands and (v) the elided *vP* requires a linguistic antecedent. Consider (3-6) below.

- (3) John₁ visits his₁ parents every Sunday and Bill₂ does [~~visit his parents every Sunday~~] too.
(i) Strict reading: Bill₂ visits his₁ (=John’s) parents.
(ii) Sloppy reading: Bill₂ visits his₂ (= Bill’s) parents.

(4) I know what Mary likes and *what* she doesn't [~~like~~].

(5) a. *Harry doesn't have [*a wife*]_i and *she*_i is a nag.

b. Harry doesn't have a wife but Bill does [~~have a wife~~]_i and *she*_i is a nag. (Grinder & Postal 1971: (12))

(6) Q: Did Sadie put the jam on the table?

A: Yes, and she left [after she did [~~put the jam on the table~~]]. (Gribanova 2013: (27))

In (3) the pronoun contained in the elided vP can co-index to the pronoun in the antecedent (i.e. the strict reading) or to the subject of the elided vP (i.e. the sloppy reading). In (4), *what* is extracted out of the ellipsis site in the second conjunct. The ungrammaticality of (5a) shows that in the negative, the indefinite DP *a knife* cannot serve as the antecedent of the pronoun *it*. Therefore, in (5b), the elided vP must provide an antecedent for the subject *she* of the following clause. In (6), the elided vP occurs in an Adjunct island and the sentence is felicitous. Regarding the requirement of a linguistic antecedent, the antecedent for the elided vP in (3-6) is provided in the first conjunct/context, respectively. These properties of English VPE are significant in that they are treated as evidence for PF-deletion and as important diagnostics for testing whether a language has VPE as well, which will be discussed in detail in Section 2.2.1.3.

2.1.2 Modal Complement Ellipsis

Although VPE in many languages is not as vigorous as that in English, vP can be deleted when it is governed by modals. This type of VPE is dubbed “Modal Complement Ellipsis (MCE henceforth)”. MCE is found in French (Busquets & Denis 2001, Dagnac 2010 and Authier 2011 2012), Spanish and Italian (Dagnac 2010 and Authier 2011), Dutch (Aelbrecht 2008, 2010), Russian, Polish and Czech (McShane 2000) and Libyan Arabic (Algryani 2012) among others. MCE in these languages has been shown that it has comparable properties to VPE in English.

In French, Spanish and Italian, for instance, when a constituent is governed by a subclass of modals, it can be deleted (Busquets & Denis 2001, Dagnac 2010 and Authier 2011). Intriguing parallels between MCE in these three languages and VPE in English have been presented in literature. The main difference between the two types of ellipsis is that the ellipsis site of MCE in French, Spanish and Italian is TP rather than vP. Taking French as an example, Busquets & Denis (2001) show that MCE in French licenses Antecedent-Contained Construction, in which the ellipsis site is contained inside its antecedent (cf. (7)). Dagnac (2010) observes that MCE in French allows for free relative configuration (cf. (8)) and *wh*-question extractions (cf. (9)).

- (7) Léa lit tous les livres qu'elle peut ~~<lire-t>~~.
 Lea reads all the books that she can read
 'Lea reads all the books that she can.'
- (8) Il embrasse qui il peut ~~<embrasser-t>~~.
 he kisses who he can kiss
 'He kissed whoever he can.'
- (9) Je sais quels livres Léa peut lire et je sais aussi *quells livres*; Ben ne peut pas ~~<lire-t>~~.
 I know which books Lea can read and I know also which books Ben neg can neg read
 'I know which books Lea can read and I also know which books Ben cannot.'

[French, Dagnac 2010: (6-8)]

Examples (7-9) show that extraction out of the ellipsis site is allowed in French MCE constructions.

Secondly, Authier (2011) shows that like English VPE, MCE in French can provide a syntactic antecedent for pronominal anaphors, as illustrated in (10-11).

- (10) En cette saison, je ne peux pas vendre de moules, mais le magasin à côté,
 In this season I neg can neg to-sell any mussels but the store next door
 Ils ont le droit [e]. Pas étonnant qu'ils *les* vendent si cher!
 they have the right neg surprising that-they them sell so expensive
 (les = the mussels they sell)
 'Given the season, I can't sell mussels, but the store next door can. No wonder they sell them for so much money.'

[French, Authier 2011: (10a)]

- (11) Emile n'a pas acheté de moules, mais Alice voulait [e].
 Emile neg-has not bought any mussels but Alice wanted
 Elle pensait *les* préparer pour ses invités de demain soir.
 she was-thinking them to-cook for her guests of tomorrow night
 (les = the mussels Alice wanted to buy)
 'Emile didn't buy any mussels, but Alice wanted to. She was thinking of cooking them for her guests tomorrow night.'

[French, Authier 2011: (10b)]

In (10-11), the first clause is in the negative form and cannot provide an antecedent for pronominal anaphora. This suggests that the antecedent of the pronoun *les* must be contained in the ellipsis site in the second clause.

Thirdly, Authier (2011) observes that like English VPE, in French MCE, when the ellipsis site contains a quantifier, it is ambiguous in terms of the quantifier scope. In English, the scope of a quantifier is ambiguous in the elided VP, which will be discussed in Section 2.2.1.3.1. Consider (12-13).

(12) A postal employee inspected every package and an FBI agent did [e] too. [English, Authier 2010: (11)]

(13) Une secrétaire aurait dû dire ça à tous nos étudiants

a secretary would-have had to-tell this to all our students

et un chef de département aurait dû [e] aussi.

and a head of department would-have had also

‘A secretary should have pointed this out to all of our students and a department head should have done so too.’ [French, Authier 2010: (15b)]

In (12), the second conjunct can be interpreted as meaning that a single FBI agent inspected all the packages, or that the packages were inspected by different FBI agents. Likewise, (13) is also ambiguous. The second conjunct means that all the students had to be shown this by the same department head or that all the students had to be shown any department head.

Dagnac (2010) and Authier (2011, 2012) claim that what is different from English VPE is that in French MCE, it is the TP that is elided. It would be ungrammatical if the elided site excluded aspectual auxiliaries (cf. (14a)), negation (cf. (14b)) and passive auxiliaries (cf. (14c)).

(14) a. *Cédric aurait pu avoir fini en octobre,

Cédric would-have been-able to-have finished in October

et Alain aurait pu aussi avoir ~~[fini en octobre]~~.

and Alain would-have been-able also to-have finished in October.

Lit.: ‘Cedric could have finished in October and Alain could have also.’

b. *Cédric doit s’inscrire, mais Alain peut ne pas [s’inscrire].

Cédric must to-register but Alain is-allowed not to-register

Lit.: ‘Cedric must register, but Alain is allowed not to.’

c. *Cédric veut être muté, et Alain veut aussi être [muté].

Cédric wants to-be reassigned and Alain wants also to-be reassigned

Lit.: ‘Cedric wants to be reassigned and Alain wants to be also.’

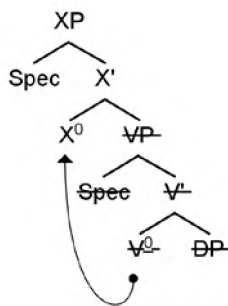
[French, Authier 2012: (2)]

The parallel properties between MCE and English-type VPE may provide an intriguing access to the issue of licensing conditions. In MCE, the modal resides at certain functional head in the IP layer and its complement is licensed for ellipsis. In English, *vP* can be deleted only when the head of TP is occupied by the auxiliary *do*, a modal or the infinitival *to*. MCE is also found in Mandarin (Wu 2002, Xu 2003, Ai 2006 and Su 2008), which I will discuss in Section 3.2.5.

2.1.3 V-stranding VPE

V-stranding VPE has been found in many languages, such as Hebrew (Doron 1990, 1998 and Goldberg 2001, 2005), Irish (McCloskey 1991, 1996, 2003, 2005 and Goldberg 2001, 2005), Spanish (López 1994, 1999), Italian (López 1994, 1999), European Portuguese (Martins 1994, 2000), Serbo-Croatian (Stjepanović 1997, 1998), Russian (McShane 2000 and Gribanova 2013), Finnish (Holmberg 1999, 2001), Farsi (Toosarvandani 2006, 2009), Tagalog (Richards 2002), Swahili (Ngonyani 1996a b, 1998), Ndendeule (Ngonyani 1996a b, 1998), Kikuyu (Ngonyani & Githinji 2006) and Chingoni (Ngonyani & Githinji 2006). In V-stranding VPE languages, while the verb remains overt, the rest of the *vP*-internal constituents such as the object and *vP*-internal adverbials are elided. V-stranding VPE is the same as English VPE, except that the verb moves out of *vP* before VPE occurs and thus survives ellipsis. This is schematically represented in (15).

(15) V-stranding VPE



It is impossible to present all the studies on V-stranding VPE in each language. Here I mainly focus on V-stranding VPE in Hebrew, Irish and Russian in that the studies on these languages show the fundamental properties of V-stranding VPE and provide a range of diagnostics for VPE.

In Hebrew, among others Doron (1983, 1990, 1998) and Goldberg (2005) claim that the verb moves to I; hence, it escapes ellipsis when VPE takes place, as illustrated in (16).

- (16) Q: (Ha-'im) Miryam hisi'a *et Dvora la-makolet*?
 Q Miryam drive.pst.3.F.sg acc Dvora to.the-grocery.store
 ‘(Did) Miryam drive Dvora to the grocery store?’
 A: Ken, hi hisi'a [~~et—Dvora la-makolet~~].
 Yes she drive. pst.3.F.sg acc Dvora to.the-grocery.store
 ‘Yes, she drove [Dvora to the grocery store].’ [Hebrew, Goldberg 2005: Chapter 2 (48)]

In (16A), while the verb remains overt, the object *Dvora* and the locative *la-makolet* ‘to the grocery store’ are deleted.

Apart from V-stranding VPE, Hebrew also has the so-called Null Object Construction, in which the object is *pro*-form. Doron (1990, 1998) claims that although V-stranding VPE and Null Object Construction have the same form on the surface in certain context, the Null Object Construction differs from V-stranding VPE in the following aspects: (i) the Null Object Construction may not occur in syntactic islands, whereas V-stranding VPE can take place in syntactic islands; (ii) while V-stranding VPE can have a sloppy reading, the Null Object Construction cannot; (iii) in V-stranding VPE, not only the object, but manner adverbials, benefactive PPs and locative arguments are also elided, whereas in Null Object Constructions, only the direct object is missing, as illustrated in (17).

- (17) Q: Šalaxt *etmol et ha-yeladim le-beit-ha-sefer*?
 send.pst.2.f.sg yesterday acc the-children to-house-the-book
 ‘Did (you) send the children to school yesterday?’
 A: Šalaxti [~~etmol—et ha-yeladim le-beit ha-sefer~~].
 send.pst.1.sg yesterday acc the-children to-house-the-book
 ‘(I) sent [yesterday the children to school].’ [Hebrew, Doron 1998: (13)]

In (17A), the direct object *ha-yeladim* ‘the children’, the temporal adverbial *etmol* ‘yesterday’ and the locative argument *le beit ha sefer* ‘to school’ are all deleted.

Goldberg (2005) provides another piece of evidence by pointing out that in Hebrew, the Null Object is allowed only if the object is inanimate and animate objects must remain overt. However, V-stranding VPE is not subject to the (in)animacy restriction. All types of objects, regardless of the animacy, are elided in V-stranding VPE. She therefore concludes that constructions like (16A) and (17A) must be V-stranding VPE as the missing object is animate.

Another typical V-stranding VPE language is Irish. It has been shown that in Irish, the verb moves out of the VP, either to I or to C, in a tensed clause (see e.g. Chung & McCloskey 1987, Hale 1989, Stowell 1989 and McCloskey 1991 1996 2005). The subject does not move out of vP (McCloskey 2005). As a result, in V-stranding VPE, the subject and the object are both elided, leaving the finite verb overt, as illustrated in (18).

- (18) a. Sciob an cat an t-eireaball de-n luch.
 snatched the cat the tail from-the mouse
 ‘The cat cut the tail off the mouse.’
- b. A-r sciob?
 interr-past snatched
 ‘Did it?’
- c. Creidim gu-r sciob.
 I-believe C-pst snatched
 ‘I believe it did.’ [Irish, McCloskey 2005: (3)]

In (18b) and (18c), all vP-internal elements are elided and only the verb remains overt.

Like Hebrew, Irish has null vP-internal arguments, including the Null Object and Null Subject (McCloskey 1991). However, Null vP-internal arguments rely on agreement marking. In a tensed clause, when the subject marker, which refers to the person and number of the subject, is attached to the verb, the subject must be “null”. When no subject marking occurs, the subject DP must remain overt. Similarly, without object marking, the object cannot be null. McCloskey (2005) therefore claims that a construction, in which the object and the subject are elided without agreement marking, must be V-stranding VPE. For example, in (18c), no agreement marking is attached to the verb, but all the VP-internal arguments are elided. This suggests that the construction is an instance of V-stranding VPE.

McCloskey (1991, 2005) states that VPE in Irish has the same core formal properties, distribution, discourse-functions and interpretation as English VPE. More specifically, V-stranding VPE in Irish can have a sloppy reading. It can appear in ‘Antecedent-Contained Deletion’ (ACD). It is not sensitive to the islands effects and can appear in syntactic islands.

V-stranding VPE is also found in Slavic languages like Russian (Gribanova 2013). Gribanova (2013) claims that in Russian, V-stranding VPE and Null Object constructions are identical on the surface, but they are

distinguished from each other under specific syntactic context. Following Hankamer & Sag (1976) who claim that surface anaphora like ellipsis is licensed only when a linguistic antecedent is found in the context, Gribanova claims that V-stranding VPE requires a linguistic antecedent, whereas the Null Object Construction does not on one hand; on the other hand, V-stranding VPE can occur in syntactic islands, but Null Object Constructions cannot. Gribanova thereby concludes that if a sentence with a missing object occurs in syntactic islands, it must be V-stranding VPE, not Null Object Construction. He further argues that it is ungrammatical that a construction with a missing object appears in a syntactic island under pragmatic context where no linguistic antecedent is provided, as shown in (19).

(19) [A young man with ripped jeans enters the room.]

*Ne volnujsja, sejčas pridët čelovek, kotoryj zaš''ë [e].

Neg worry.2sg now come.3sg.fut person who.nom behind-sew.3sg.fut

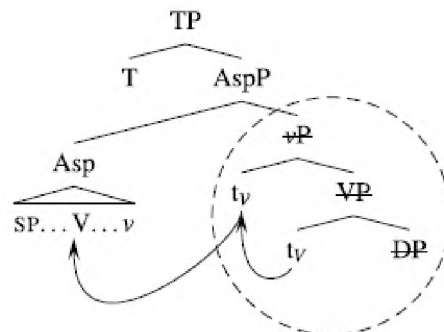
Intended: 'Don't worry, soon someone who will sew (them) up will come.'

[Russian, Gribanova 2013: (34)]

Gribanova states that in (19) there is no linguistic antecedent and the missing object must be a Null Object, but the Null Object construction is not allowed to appear in a Complex NP island. Therefore, the sentence is not grammatical.

Following among other Babko-Malaya (2003) and Svenonius (2004), Gribanova (2013) claims that in Russian, the verb moves to the head of AspP, which is located between vP and TP; hence, it survives VPE, as schematically illustrated in (20).

(20) V-stranding VPE in Russian



(Gribanova 2013: (20))

To sum up, this section shows the three types of ellipsis in languages, which are directly relevant to vP/predicate ellipsis. V-stranding VPE and English VPE have the same properties, distribution and

discourse-function, but in V-stranding VPE languages, the verb moves to I⁰ or C⁰ for some intendent reasons and thus survives VPE. In MCE, lthough the ellipsis site is bigger than vP in some languages, it has the comparable properties to English-type VPE.

2.2 Ellipsis in theory

The previous section demonstrates that vP can be deleted in English and V-stranding VPE languages. This section focuses on the theories of ellipsis in literature. Theories on ellipsis are mainly involved with three aspects, namely the relation between the ellipsis site and its antecedent, whether ellipsis is PF-deletion or *pro*-form, and licensing conditions under which ellipsis takes place. The relation between the elided constituent and its antecedent has been well established (e.g. Bouton 1970, Bresnan 1976, Sag 1976, Hardt 1993, Chung et al. 1995, Takahashi & Fox 2006 and Merchant 2013). In this thesis, I will not focus on this topic in that as it turns out, a linguistic antecedent is not a necessary requirement of ellipsis in Mandarin and Xhosa. Instead, I mainly focus on the licensing conditions and the issue of whether ellipsis is PF-deletion or not. These two respects are still less-studied in both Mandarin and Xhosa. The current theoretical frameworks, to a large extent, are proposed according to English VPE. The issue of whether those theories are able to account for ellipsis in Mandarin and Xhosa needs to be examined. In what follows, I provide an overview of the theoretical frameworks on the nature and licensing conditions of ellipsis. Based on these theories, ellipsis in Mandarin and Xhosa putative VPE construction is explored in the following chapters.

2.2.1 No deletion, *pro*-form or PF-deletion?

The first question that needs to be dealt with is: what is ellipsis? There are three different opinions on this question. The first opinion is ‘what you see is what you get’. There is no more syntax than what is phonetically realized (e.g. Ginzburg & Sag 2000 and Culicover & Jackendoff 2005). The second opinion is that ellipsis is one type of *pro*-forms, i.e. the ellipsis site does not have any internal syntactic structure (e.g. Wasow 1972, Hardt 1993, 1999, Lobeck 1995, Fiengo & May 1994, Chung et al 1995, Wilder 1997 and Fortin 2007). The third opinion is that the ellipsis site has a fully-fledged syntactic structure, but it is not pronounced at PF (e.g. Hankamer & Sag 1976, Johnson 2001, Schuyler 2001 and Merchant 2001, 2004).

2.2.1.1 No deletion: ‘what you see is what you get’

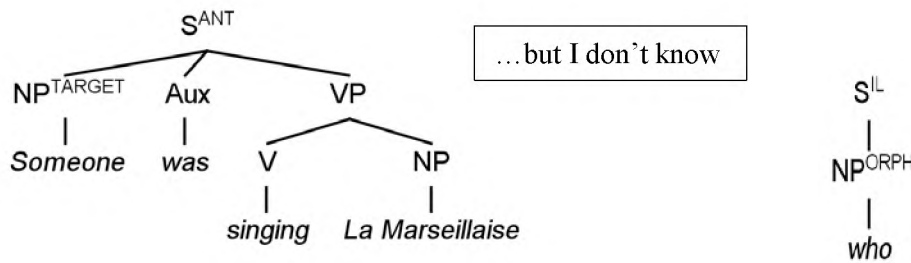
The Simpler Syntax Hypothesis postulates that there is no more structure than what is pronounced at PF (Ginzburg & Sag 2000 and Culicover & Jackendoff 2005). The hypothesis is presented in (21).

(21) Simpler Syntax Hypothesis

The most explanatory theory is one that imputes the minimum syntactic structure necessary to mediate between phonology and meaning. (Culicover & Jackendoff 2005: (5))

This hypothesis claims that there is neither PF-deletion nor deep anaphora like *pro*-forms. Instead, Culicover & Jackendoff (2005) developed an indirect licensing approach to account for the semantic recovery of an orphan phrase (i.e. a phrase with missing constituents). They propose that there are three types of indirect licensing, namely matching, sprouting and *trace*. Matching is an approach in which an orphan phrase is matched with an antecedent of the clause. Sprouting refers to an approach in which the orphan phrase is a supplement by spelling out an implicit argument or adjunct. The third approach is that an orphan phrase behaves like a *trace*. For purpose of exposition, the mechanism is schematically represented in (22).

- (22) a. Someone was singing la Marseillaise, but I don't know who.
b.



(Cited from Aelbrecht 2010: Chapter 1 (5-6))

The second clause in (22a) is interpreted as meaning that *I don't know who was singing La Marseillaise*, however, the embedded clause only contains an orphan phrase *who*. The orphan phrase probes the target NP *someone* in the antecedent clause, and the semantic and the syntactic feature of the orphan are licensed through the connection with this antecedent.

The Simpler Syntax Hypothesis aims to reduce the grammar by assuming that the syntax completely matches the phonology. However, this approach faces many empirical challenges. Firstly, Section 2.2.1.3 will provide evidence supporting that the ellipsis site contains a syntactic structure. This will be further confirmed by the data from Mandarin and Xhosa in Chapter 3 and Chapter 6. Secondly, the indirect licensing approach runs into many technical problems when it comes into the issue of how an orphan phrase targets the antecedent and how the hidden meaning is recovered through the connection between the orphan

phrase and its antecedent. Thirdly, this approach cannot account for ellipsis in Mandarin and Xhosa putative VPE construction. For instance, as it will be shown in Chapter 3 and Chapter 6, in these two languages, even under the same linguistic and pragmatic context, while some objects can be deleted, others cannot. The Simpler Syntax Hypothesis is not able to explain this distinction among the objects. Therefore, I will not follow this approach in this study.

2.2.1.2 The *pro*-form hypothesis

Wasow (1972) first proposed that the elided *vP* is an empty non-NP pronominal. Within the Government and Binding theory, Chao (1987), Lobeck (1987, 1992, 1995, 1999) and Zagana (1988a, b) maintain that ellipsis is an instance of the Empty Category (EC). This assumption is favoured by the fact that the ellipsis site has a lot in common with the Empty Category like *trace* or *pro*. Lobeck (1995, 1999) points out that, like pronouns, ellipsis is subject to the Backwards Anaphora Constraint, which prohibits a pronoun from preceding and commanding its antecedent (Langacker 1966). Ellipsis can occur under the pragmatic context without a linguistic antecedent (also see Schachter 1977 and Chao 1987). A deleted VP can have ‘split’ antecedents. For exposition, consider the examples below.

(23) a. Because Mary didn’t [_{vP} *e*], Sam *bought a skateboard*.

b. *Mary didn’t [_{vP} *e*] and Sam *bought a skateboard*. (Lobeck 1999: (14))

(24) The following sentences can be uttered in certain pragmatic context without any linguistic antecedent.

a. You shouldn’t have [_{vP} *e*]!

b. Don’t [_{vP} *e*].

c. I will [_{vP} *e*] if you do [_{vP} *e*]. (Lobeck 1995: Chapter 1 (62))

(25) I can walk, and I can chew gum. Gerry can [_{vP} *e*] too, but not at the same time.

(Lobeck 1995: Chapter 1 (82b))

(23) shows that the elided *vP* is not allowed to precede its antecedent unless it is in a subordinate clause. In (24), these elided *vPs* occur without a linguistic antecedent. In (25), the elided *vP* refers to the two *vPs* in the preceding sentence.

Although the ellipsis site displays some comparable properties to pronouns as shown in (23-25), a set of tests have been used to show that the ellipsis site contains an internal syntactic structure, whereas deep anaphora like *pro*, does not. This will be presented in the next section.

2.2.1.3 The PF-deletion hypothesis

The view on the ellipsis site introduced in the preceding section argues that an elided constituent is one type of *pro*-forms, which does not have any internal syntactic structure. Many theorists, however, argue that the ellipsis site has a full-fledged syntactic structure, but it is not pronounced at PF, which is addressed as surface deletion in Hankamer & Sag's (1976) terminology. A set of tests have been exploited to distinguish PF-deletion from deep anaphora like *pro*. In this thesis, I adopt those tests and argue that the ellipsis site in both Mandarin and Xhosa putative VPE constructions are deletions at PF.

2.2.1.3.1 Sloppy readings and mixed readings

Ross (1967, 1969) first discovered that when a missing *vP* contains a pronoun, it is ambiguous in terms of a strict reading and a sloppy reading. The pronoun can be referentially identical to its antecedent (i.e. a strict reading). Alternatively, it can be bound by the subject of the elided *vP* (i.e. a sloppy reading). The ambiguity in English VPE is shown in (26).

(26) John₁ likes his₁ child, and Bill₂ does [_{vP} like ~~his child~~] too.

- (i) Strict reading: Bill₂ likes his₁ (=John's) child.
- (ii) Sloppy reading: Bill₂ likes his₂ (= Bill's) child.

In (26) the ellipsis site can either refer to John's child (the strict reading) or to Bill's child (the sloppy reading).

Sag (1976) and Williams (1977) claim that VPE reflects logical aspects of the representation of pronouns, which are ambiguous between a lambda-bound and referential reading. According to Sag and Williams' account, the strict reading comes from the referential reading. The sloppy reading is derived from the lambda-bound, as illustrated in (27).

- (27) a. Strict reading: $\lambda x. \text{likes}(x, y\text{'s child})$
- b. Sloppy reading: $\lambda x. \text{likes}(x, x\text{'s child})$

In (27a), *x* refers to *Bill* and *y* to *John*. The strict reading is attributed to the referential nature of the elided pronoun. In (27b), the ellipsis site has a parallel syntactic structure to its antecedent. The sloppy reading is derived from the lambda binding, i.e. it is a variable bound by a λ -operator (see Lasnik 1976, Reinhart 1983

and May 1985 among others for more details). This shows that the sloppy reading is derived from the parallel syntactic structure between the ellipsis site and its antecedent. As a result, the sloppy reading has been treated as a crucial argument supporting that the ellipsis site has an internal syntactic structure (e.g. Doron 1990, 1998 for Hebrew; McCloskey 1991, 2005 for Irish; Ngonyani & Githinji 2006 for Kikuyu and Chingoni and Algryani 2012 for Libyan Arabic).

Apart from the sloppy reading of pronouns contained in the elided vP, Hirschbühler (1982) observes that when the elided vP in English contains a quantifier, the scope of the quantifier is ambiguous. Cecechetto and Percus (2006) show that *pro*-forms like *do that* abolish the ambiguities, as illustrated in (28).

- (28) a. A postal employee inspected every package and an FBI agent did [e] too.
b. A postal employee inspected every package and an FBI agent did that too.

(Cited from Authier 2011: (11))

In (28a), the second conjunct is ambiguous in terms of the scope of the quantifier. It can be interpreted as meaning that a single FBI agent inspected all the packages, or that the packages were inspected by different FBI agents. In contrast, in (28b), the second conjunct only has the first interpretation, i.e. a single FBI agent inspected all the packages.

Huang (1987, 1988, 1989, 1991) claims that the putative VPE construction in Mandarin may have a sloppy reading and the sloppy reading is subject to the locality effect, namely, that the antecedent of the sloppy pronoun is restricted to the subject of the elided VP (i.e. the binder of the lambda expression). The sloppy pronoun can co-index to the subject of the embedded clause, but not the subject of the main clause, as illustrated in (29).

- (29) John₁ visited his₁ mother, and Mary₃ knew that Bill₂ did [~~visit his mother~~] too.
(i) Strict reading: Bill₂ visited John₁'s mother.
(ii) Sloppy reading: Bill₂ visited Bill₂'s mother.
(iii) Locality effect: *Bill₂ visited Mary₃'s mother.

In (29), the object in the elided vP can refer to John₁'s mother (the strict reading) or to Bill₂'s mother (the sloppy reading), but not to Mary₃'s mother owing to the locality effect, which requires that the sloppy pronoun must be bound by the subject of the elided VP. Based on the availability of a sloppy reading and the locality effect, Huang (1989, 1991) claims that the ellipsis site is not deep anaphora like *pro*, but PF-

deletion. This is because provided that *pro* has the same characteristics as overt pronouns, if the ellipsis site is *pro*, it should be able to co-index to the subject of the main clause. The Principle B requires that a pronoun must be free in its binding domain, whereas it can be bound by an antecedent that is located outside of its binding domain.

However, some linguists argue that the sloppy reading is neither necessary nor sufficient criterion for PF-deletion (e.g. Sag 1976, Hankamer & Sag 1976, Bach, Bresnan & Wasow 1974 and Ai 2006). One important argument is that the sloppy reading is not exclusive to PF-deletion. Pronouns may display the ambiguity between a sloppy reading and a strict reading as well, as illustrated in the following example.

(30) John₁ beat his₁ classmates and Bill did it/that, too.

(i) Strict reading: Bill₂ beat his₁ (John's) classmates.

(ii) Sloppy reading: Bill₂ beat his₂ (Bill's) classmates. (Ai 2006: Chapter 2 (14))

In (30), *do it/that* is considered as a deep anaphor by Hankamer & Sag (1976). Both the strict reading and the sloppy reading are available in this sentence.

Hoji (1997) observes that besides the sloppy reading, the ellipsis site may also have a mixed reading. He argues that a mixed reading exclusively relies on Formal Dependency. Therefore, the ellipsis site must have an internal syntactic structure if it has a mixed reading. The mixed reading of English VPE is illustrated in (31).

(31) John₁ knows that his₁ teacher likes him₁ and Bill₂ does [~~know that his teacher likes him~~] too.

(i) Strict reading: Bill₂ knows that John₁'s teacher likes John₁.

(ii) Sloppy reading: Bill₂ knows that Bill₂'s teacher likes Bill₂.

(iii) Mixed reading: Bill₂ knows that John₁'s teacher likes Bill₂.

In this thesis, I consider the availability of a sloppy reading and mixed reading as one of the diagnostics to distinguish PF-deletion from deep anaphora. The conclusion from this diagnostic will be supplemented by other tests.

2.2.1.3.2 Extraction from the ellipsis site

Another important argument for the PF-deletion analysis is that certain constituent can be extracted from the ellipsis site (e.g. Merchant 2001, 2004, 2008, 2010, Aelbrecht 2010 and Aelbrecht & Haegeman 2012).

If the ellipsis site does not have a syntactic structure, extracting an element from it should not be possible in that the moved element would not have a position in which it is generated. Extraction suggests that there is a syntactic structure which hosts the *trace* of the extracted element and ellipsis takes place after the extraction, as shown in (32).

(32) I know which books she read, and *which_i* she didn't [~~read *t_i*~~]. (Merchant 2008: (29b))

In (32), the *wh*-word *which* is generated in the elided *vP*. It is extracted from the ellipsis site to the clause-initial position before VPE takes place.

Extraction has been considered as important evidence for PF-deletion in literature. It has been used to distinguish VP ellipsis from the Null Object Construction in many languages (see Depiante 2001, Schuyler 2001, Toosarvandani 2006, 2009, Aelbrecht 2010 and Aelbrecht & Haegeman 2012 among others). As Aelbrecht (2010) points out, however, there may be some independent reasons that block extractions; therefore, the unavailability of extraction does not directly indicate that the ellipsis site is a *pro*-form. I will demonstrate that extraction is not applicable in Xhosa in Chapter 6.

2.2.1.3.3 Providing antecedents for pronominal anaphors

Grinder & Postal (1971) and Hankamer & Sag (1976) claim that while the ellipsis site of PF-deletion can provide a missing antecedent for pronominal anaphors, deep anaphora like pronouns cannot. This contrast is illustrated in the example below.

- (33) a. *Jack didn't cut Betty with *a knife_i*, and *it_i* was rusty.
b. Jack didn't cut Betty with a knife but Bill did, and *it* was rusty.
c. *Jack didn't cut Betty with a knife – Bill did it, and *it* was rusty.

(Adapted from Hankamer & Sag 1976: (30))

(33a) shows that in the negative, the indefinite DP *a knife* cannot serve as the antecedent of the pronoun *it*. Therefore, the grammaticality of (33b) indicates that the elided *vP* must contain the antecedent, whereas the ungrammaticality of (33c) suggests that *did it* cannot provide an antecedent for *it*.

2.2.1.3.4 Island effects

Ross (1967) first observed that ellipsis such as sluicing, in which the entire IP is elided and only an extracted *wh*-phrase remains overt, is not sensitive to constraints on island effects. More recently, many linguists (Chung et al. 1995, Merchant 2001) provide detailed surveys of sluicing in terms of island effects. Evidence that VPE appears in islands is also found (e.g. Fox & Lasnik 2003 and Gribanova 2013), as shown below.

(34) A: We should hire John since he knows how much every item in this store costs.

B: I think that's not necessary. ?I know how much every item costs that John does [~~know how much costs~~]. (Fox & Lasnik 2003, (11))

(35) Q: Did Sadie put the jam on the table?

A: Yes, and she left [~~after she did put the jam on the table~~]. (Gribanova 2013, (27))

The elided *vP* in (34) appears in a Complex NP island (i.e. relative clause) and the elided *vP* in (35) appears in an Adjunct island.

In contrast, Null Objects, which are *pro*-forms, are not allowed to appear in syntactic islands in languages. For instance, Raposo (1986) shows that topic dropping in European Portuguese is sensitive to syntactic islands. Following Huang (1984), Li (2002) argues that the Null Object in Mandarin is a variable bound by a zero topic and it is subject to the island effects in such a way that an overt element is not allowed to be topicalized from syntactic islands, as shown in (36) and (37) below.

(36) **Mary*_i, wo zhidao [piping *t*_i] de Bill haowu huiyi. (Complex NP island)

Mary, I know criticize comp Bill have no regret

Intended: 'As for Mary, I know that Bill, who criticized (her), has no regrets.'

[Mandarin, Li 2002: Chapter 2 (154)]

(37) **Mary*_i, wo [yinwei Bill piping le *t*_i] er shengqi. (Adjunct island)

Mary I because Bill criticize pfv therefore angry

Intended: 'As for Mary, I was angry because Bill criticized (her).'

[Mandarin, Li 2002: Chapter 2 (155)]

In (36), *Mary* is topicalized from the Complex NP island to the sentence-initial position. This sentence is thus ungrammatical. In (37), *Mary* is fronted from the Adjunct island and the sentence is not grammatical either. Therefore, Li (2002) concludes that while VPE can occur in syntactic islands, the Null Object cannot.

The island effect has been adopted as a diagnostic to distinguish VPE from Null Object construction in many languages (e.g. Doron 1990, 1998 for Hebrew; Li 2002 for Mandarin; Algryani 2012 for Libyan Arabic and Gribanova 2013 for Russian).

2.2.1.3.5 Requirement for linguistic antecedents

Hankamer & Sag (1976) argue that ellipsis can be licensed only when there is a linguistic antecedent in the surrounding discourse, whereas the *pro*-form like ‘*do it*’ can occur under the pragmatic context, as illustrated in the following examples.

(38) a. [Hankamer attempts to stuff a 9-inch ball through a 6-inch hoop]

Sag: *It’s not clear that you’ll be able to.

b. [Same context]

Sag: It’s not clear that you’ll be able to do it. (Hankamer & sag 1976: (3-4))

(39) Hankamer: I’m going to stuff this ball through this hoop.

Sag: It’s not clear that you’ll be able to. (Hankamer & sag 1976: (5))

In (38), VPE is not allowed to occur under the pragmatic control, however, it is completely grammatical to use *do it* in the same context. (39) shows that VPE can be used when there is a linguistic antecedent.

Since Hankamer & Sag (1976), many linguists adopt the requirement of a linguistic antecedent as one of the most important diagnostics for VPE (see e.g. Li 2002 and Ai 2006 for Mandarin; Algryani 2012 for Libyan Arabic; Gribanova 2013 for Russian). However, although VPE in English typically occurs in contexts with a linguistic antecedent, counterexamples have been found in many natural discourses. Consider the following sentences.

(40) a. In yesterday’s elections, only 43 percent of registered voters did [~~heard on National Public Radio by CK in November 1996~~].

b. A lot of this material can be presented in a fairly informal and accessible fashion, and often I do [~~present this material in a fairly informal and accessible fashion~~].

(Cited from Kennedy 2003: (13))

(41) In March, four fireworks manufacturers asked that the decision be reversed, and on

Monday the ICC did [~~reverse the decision~~]. (Cited from Kehler 2000: (5))

(42) Harry used to be a great speaker, but he cannot [~~spea~~k] anymore, because he lost his voice.

(Cited from Kehler 2000: (6))

Note that in (40b) and (41), the elided *vP* and its antecedent are mismatched in terms of Voice. This indicates that the syntactic structure of the elided *vP* differs from its antecedent. In (40a) and (42), although *voter* and *speaker* is semantically related to the elided site, structurally, no syntactic antecedent appears for the ellipsis site. Taking (42) as an example, even if the first clause does not appear, the VPE is felicitous under certain pragmatic context. This shows that ellipsis is felicitous without linguistic antecedent. If the requirement of a linguistic antecedent is a necessary condition for PF-deletion, then conflict would arise. On one hand, as Lobeck (1995) argues (i.e. Section 2.2.1.2), the availability of VPE in pragmatic contexts suggests that VPE is deep anaphora; on the other hand, other tests all show that the ellipsis site has an internal syntactic structure, i.e. PF-deletion. This conflict will be further confirmed by the data from Mandarin and Xhosa in Chapter 3 and Chapter 6. Merchant (2004) argues that the linguistic antecedent is not a necessary condition for ellipsis and an elided constituent can occur in pragmatic context without any linguistic antecedent.

Kehler (2002) claims that whether an elided constituent is allowed or not in pragmatic contexts depends on coherence relations of the discourse. He classifies coherence relations into cause-effect relations and resemblance relations and further claims that when VPE is part of cause-effect relations, it does not require a linguistic antecedent. When it is part of resemblance relations, a linguistic antecedent is required. The contrast is shown in (43) and (44) below.

(43) *This letter provoked a response from Bush, and Clinton did [*e*] too. (Kehler 2000: (40))

(44) This letter provoked a response from Bush because Clinton already had [*e*]. (Kehler 2000: (43))

In (43) and (44), there is no linguistic antecedent for the ellipsis site. These two clauses in (43) are in a resemblance relation. Therefore, the sentence is unacceptable when the *vP* is deleted in the second conjunct. In contrast, in (44), these two clauses are in a cause-effect relation; hence, the sentence is felicitous. Here, it shows that the requirement of a linguistic antecedent is far more complicated than has been considered. Not just syntactic, but semantic relations also play an important role. Therefore, in this research, I argue that the linguistic antecedent is not a necessary condition for ellipsis in terms of structure.

Merchant (2001, 2004) provides several extra arguments to demonstrate that sluicing is an instance of PF-deletion. I refer to the readers to Merchant (2001) for a fine-grained discussion. In this thesis, I mainly

exploit the tests listed in this section to show that ellipsis in the Mandarin and Xhosa putative VPE construction is PF-deletion.

2.2.2 Licensing conditions for ellipsis

The preceding section provides a review of the theoretical frameworks on what ellipsis is. This section discusses the licensing conditions of ellipsis. Licensing conditions have been under debate for a long time. Following different theoretical frameworks, theorists propose various theories to account for what conditions ellipsis is licensed under. In what follows, I provide a review of those theories and discuss their advantages and disadvantages.

2.2.2.1 The ECP hypothesis

As it has been shown in Section 2.2.1.2, some linguists (Wasow 1972, Chao 1987, Lobeck 1987, 1992, 1995, 1999 and Zagana 1988a, b) claim that ellipsis is an Empty Category. Consequently, they argue that ellipsis is licensed by the Empty Category Principle (ECP), as shown in (45).

(45) Empty Category Principle

An Empty Category must be properly governed. (Lobeck 1995: Chapter 1 (3))

Based on the Empty Category Principle, Lobeck (1995) proposes the Licensing and Identification of *pro*, as shown in (46).

(46) Licensing and Identification of *pro*

An empty, non-arbitrary pronominal must be properly head-governed, and governed by an X-0 specified for strong agreement. (Lobeck 1995: Chapter 2 (45))

(47) Strong Agreement

An X-0 is specified for 'strong' agreement iff X-0, the phrase or head with which X-0 agrees, morphologically realizes agreement in a productive number of cases.

(Lobeck 1995: Chapter 2 (44))

On account of the assumption that ellipsis, covering vP ellipsis, NP ellipsis and CP ellipsis (i.e. sluicing), is an instance of the Empty Category, Lobeck (1995) claims that ellipsis is licensed by the Licensing and Identification of *pro*. Here, I only focus on vP ellipsis. Lobeck (1995) argues that TP in English has a strong

[+Tense] feature, which is realized by an auxiliary in the IP domain; hence, it can license its complement *vP* to be deleted. This analysis is challenged by the observation that VPE is not always allowed when it is governed by the infinitival *to* (Zwicky 1981). While *vP* can be deleted if the infinitive clause serves as a complement, it is prohibited from deletion if the infinitive clause is an adjunct or a subject. The contrast is illustrated in (48) and (49).

(48) a. Even though he doesn't like to [_{vP} *e*], Ron *jogs every day*.

b. *Even though he could jog to [_{vP} *e*], Ron doesn't do anything to *stay in shape*.

(49) a. You shouldn't *play with rifles* because it's dangerous to [_{vP} *e*].

b. *You shouldn't *play with rifles* because to [_{vP} *e*] is dangerous. (Lobeck 1995: Chapter 6 (1-2))

Lobeck (1995) proposes that the infinitival *to* cannot properly govern the ellipsis site on its own. It must move to the preceding head in order to license VPE. Following the Government Transparency Corollary, which allows a head to govern from the position where it has incorporated with another head (Baker 1988), She claims that when an infinitive clause behaves as a complement, the infinitival *to* incorporates into the preceding head and thus properly governs the ellipsis site. However, when an infinitive clause serves as an adjunct or a subject, the head movement of the infinitival *to* to the preceding head is blocked, and consequently it cannot license *vP* ellipsis.

Johnson (2001) has already discussed about the problems that Lobeck's (1995) analysis faces. Firstly, on account of DP ellipsis and IP ellipsis, Lobeck's (1995) analysis leads to the expectation that NP and IP should be able to undergo movement, leaving a *trace* at the base-generated position. However, such movement is not possible in English, as illustrated in the following examples.

(50) a. Mary already read Holly's *story*, and Joe Bell will read Holly's [*e*], too.

b. *It's *story*_{*i*} that Joe Bell will read Holly's *t_i*. (Johnson 2001: (15a))

(51) a. We are going to the meeting, but Sally hasn't told us when [_{IP} *e*].

b. *It's [*we go to the meeting*]_{*i*}, that Sally will tell us when *t_i*. (Johnson 2001: (15b))

(50a) and (51a) clearly show that the NP and IP can be elided, respectively. However, they are not allowed to undergo movement for topicalization, leaving a *trace* at their base-generated position (50b) and (51b). Secondly, Johnson (2001) points out that *vP* cannot be deleted in infinitive clauses even if it is properly governed by an auxiliary, as illustrated in (52). Lobeck's (1995) analysis fails to account for the ungrammaticality.

- (52) a. *May Wildwood came to be *introduced by the barkeep* and I also came to be [_{vP} e].
 b. *You shouldn't have *played with rifles* because to have [_{vP} e] is dangerous.
 c. ??Ron wanted to be *wearing a tuxedo to the party*, but Caspar didn't know whether to be [_{vP} e].
 d. *Lulamae recounted a story to be *remembered* because Holly has recounted a story to be [_{vP} e].
- (Johnson 2001: (26))

In (52), the elided vP is properly governed by an auxiliary in these sentences, however none of them are grammatical. This is opposite to the prediction of Lobeck's (1995) analysis.

Thirdly, Lobeck (1995) argues that the strong feature of a functional head must be realized morphologically in order to license ellipsis (cf. (47)). Mandarin lacks inflectional morphemes in general and therefore Lobeck's framework would run into problems when it comes to ellipsis in Mandarin. Tense in Xhosa is realized morphologically, however, as it turns out, vP is not allowed to be deleted.

As it turns out in Chapter 5 and Chapter 8, the recoverability of elided constituents in Mandarin and Xhosa is related to the *trace* that is left when the constituent moves to the specifier of the Ellipsis Phrase, however the analysis proposed in this thesis is very different from the Empty Category Principle in arguing that ellipsis is licensed by the EEPP feature of the Ellipsis Phrase, not the Empty Category Principle.

2.2.2.2 The vP-movement hypothesis

Another approach of the licensing conditions involves the correlation between vP ellipsis and vP movement. It has been observed that there exists a parallel between vP ellipsis and vP movement (Johnson 2001, Kim 2003, Thoms 2010a, b and Authier 2011), as illustrated in (53) and (54).

- (53) a. José *likes rutabagas*, and Holly does [~~like rutabagas~~]
 b. José *ate rutabagas*, and Holly has [~~eaten rutabagas~~]
 c. José should have *eaten rutabagas*, and Holly should have [~~eaten rutabagas~~]
 d. José is *eating rutabagas*, and Holly is [~~eating rutabagas~~]
 e. José has been *eating rutabagas*, and Holly has been [~~eating rutabagas~~]
 f. Mag Wildwood wants to *read Fred's story*, and I also want to [~~read Fred's book~~].

(Adapted from Johnson 2001: (5))

- (54) a. [*Like rutabagas*]_i, Holly does *t_i*.
 b. [*Eaten rutabagas*]_i, Holly has *t_i*.
 c. [*Eaten rutabagas*]_i, Holly should have *t_i*.
 d. [*Eating rutabagas*]_i, Holly is *t_i*.
 e. [*Eating rutabagas*]_i, Holly has been *t_i*.
 f. [*Read Fred's book*]_i, I also want to *t_i*.

In the second conjunct of the sentences in (53), the *vP* is deleted and all the sentences are completely grammatical. (54) shows that these *vP*s can be fronted to the sentence-initial position for topicalization.

Based on the parallel between *vP* ellipsis and *vP* topicalization, Johnson (2001) advocates that *vP* ellipsis is licensed by *vP* topicalization. More in particular, *vP* first undergoes topicalization and then is elided. The *vP* ellipsis site is actually a *trace* or *copy* of the topicalized *vP*. Johnson (2001) claims that this explains the asymmetry between finite clauses and infinitive clauses in respect of the island effect. VPE is not sensitive to island effect in finite clauses, whereas it cannot appear in syntactic islands in infinitive clauses. For example, as it has been illustrated in (29-30), *vP* ellipsis is licensed when the target infinitive clause serves as a complement, but it is not allowed if the target infinitive clause acts as an adjunct (Adjunct island) or a subject (Complex NP island). Johnson (2001) states that the ungrammaticality is attributed to the fact that while *vP* can be topicalized in a finite clause, it is prohibited from topicalization in an infinitive clause. A topicalized *vP* must move out of infinitive clauses and land in some finite clauses (cf. (54f)). This movement is subject to the island effect and consequently, a *vP* cannot be deleted in infinitive clauses. In comparison with (52b) and (52d), consider the example below.

- (55) a. *You shouldn't *play with rifles* because [*play with rifles*]_i to *t_i* is dangerous.
 b. *Lulamae recounted a story to *remember* because [*remember*]_i Holly had recounted
 a story to *t_i*. (Johnson 2001: (29 a&c))

These two sentences in (55) show that the topicalization of *vP* from infinitive clauses is ungrammatical. As a result, *vP* ellipsis is prohibited in infinitive clauses as shown in (52b & 52d)

Johnson's (2001) assumption captures the parallel between VPE and *vP* topicalization, however, Aelbrecht & Haegeman (2012) observe that although there are similarities between *vP* ellipsis and *vP* topicalization, *vP* movement obeys various constraints that *vP* ellipsis does not. For example, a *VP* is not allowed to be

extracted from an island like *wh*-islands and a Complex NP islands, whereas *vP* ellipsis can take place in such islands, as illustrated in the following examples.

- (56) a. *I knew that some students presented this article in my class but [*present the article*]_i
I couldn't recall [which of the students didn't *t_i*].
- b. *I know that some students presented this article in my class but [*present the article*]_i
I can't recall the students [who didn't *t_i*]. (Aelbrecht & Haegeman 2012: (13))
- (57) a. I knew that some students presented this article in my class but I couldn't recall [which of
the students didn't [~~present the article~~]].
- b. I know that some students presented this article in my class but I can't recall the students
[who didn't [~~present the article~~]]. (Aelbrecht & Haegeman 2012: (14))

The sentences in (56) show that *vP* cannot be extracted from *wh*-islands for topicalization. However, *vP* ellipsis can appear in these islands (57). This contradicts Johnson's expectation. If a *vP* is topicalized and then elided, we would expect that the sentences in (57) is ungrammatical.

Thoms (2010 a, b) puts forth that ellipsis is licensed by an overt A-bar movement. The complement of a moved constituent is licensed for ellipsis. The *vP* ellipsis is licensed by *vP* movement. Thoms (2010a) claims that ellipsis is driven by a repair operation, which saves the derivation from a linearization failure. He states that when a constituent moves to a new position, the base copy is not deleted locally. Deletion of the whole complement of the landing site is required in order to ensure that the structure is linearized properly; otherwise, the higher cope will c-command the undeleted lower copy.

There are several problems about Thoms's (2010a) analysis. Firstly, if ellipsis is driven by the repair operation of linearization, we would expect that ellipsis should be compulsory. However, ellipsis like *vP* ellipsis and sluicing is optional. For instance, the sentences in (38) are completely grammatical if *vP* is not deleted. Secondly, Thoms (2010a) claims that the ellipsis site is the complement of a moved constituent. This does not hold true for Mandarin and Xhosa. As it will be presented in Chapter 5 and Chapter 8, in these two languages, it is the moved constituents that are deleted, not the complement of the moved constituents.

To summarise, Johnson's (2001) *vP*-topicalization assumption and Thoms's (2010 a, b) non-A-movement assumption capture the correlation between *vP* ellipsis and *vP* movement. However, these two assumptions fail to adequately account for the ellipsis phenomenon. In addition, they do not explain how ellipsis is

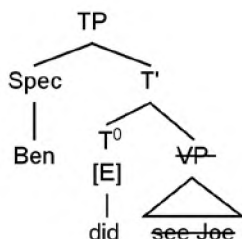
derived either. As it turns out, ellipsis in the Mandarin and Xhosa putative VPE construction displays a parallel to movement. This thesis employs the correlation between ellipsis and movement to explore the derivation of ellipsis, however, differing from Johnson (2001) and Thoms (2010a), I propose that there exists an Ellipsis Phrase and an XP must be deleted as soon as it moves to [Spec, EP]. The parallel between ellipsis and movement is attributed to the movement to [Spec, EP].

2.2.2.3 The [E] feature hypothesis

Within the Minimalist Program, a lexical approach has been advocated to analyse ellipsis (e.g. Merchant 2001, 2004, 2013, Van Craenenbroeck & Lipták 2006, Vicente 2006, Ha 2008, Toosarvandani 2006 2009, Aelbrecht 2010, Van Craenenbroeck 2010 and Temmerman 2013). This approach stipulates that the lexicon contains an [E] feature which must be merged with an appropriate head. Specifically, when the [E] feature is merged with T^0 , it will trigger ν P ellipsis. When it is merged with C^0 , it will trigger sluicing. This is schematically represented in (58).

(58) a. Abby didn't see Joe, but Ben did.

b.



(Adapted from Merchant 2013: (18))

In (58), the [E] feature is incorporated with T^0 and it thus triggers the non-pronunciation of the ν P complement. Merchant (2001) argues that the [E] feature imposes Focus condition, which requires that a constituent can be deleted only if it is e-GIVEN. The Focus condition on ν P ellipsis is shown in (59).

(59) Focus condition on ν P ellipsis

A ν P α can be deleted only if α is e-GIVEN. (Merchant 2001: Chapter 1 (43))

(60) e-GIVENNESS

An expression E counts as e-GIVEN iff E has a salient antecedent A and modulo \exists -type shifting,

(i) A entails the F-closure of E, and

(ii) E entails F-clo(A)

(Merchant 2001: Chapter 1 (42))

(61) F-closure

The F-closure of α , written F-clo(α), is the result of replacing F-marked parts of α with \exists -bound variables of the appropriate type (modulo \exists -type shifting).

(Merchant 2001: Chapter 1 (8))

I cite the following example to illustrate how ν P ellipsis is licensed within Merchant's Focus condition.

(62) Abby called Chuck an idiot after BEN did.

a. = ... after BEN did [~~call Chuck an idiot~~].

b. \neq ... after BEN did [~~insult Chuck~~].

(Merchant 2001: (45a & 46))

In (62), the antecedent is [*call Chuck an idiot*]. On account of the F-closure, the ν P has an open variable corresponding to the subject; hence, \exists -type shifting applies, resulting in (63).

(63) $VP_A' = \exists x. x$ called Chuck an idiot

Merchant advocates that \exists -type shifting must also apply to the ellipsis site by replacing the trace of the subject in that the subject BEN is F-marked, as shown below.

(64) F-clo(VP_E) = $\exists x. x$ called Chuck an idiot

This means that VP_A' entails F-clo(VP_E). Merchant further argues that the entailment also goes in the opposite direction. VP_E' entails the F-closure of VP_A , as illustrated in (65) and (66).

(65) $VP_E' = \exists x. x$ called Chuck an idiot

(66) F-clo(VP_A) = $\exists x. x$ called Chuck an idiot

As the F-closure of VP_A and VP_E are identical, VP_E is e-GIVEN and it can be deleted owing to the Focus condition on ν P ellipsis (cf. (59)).

In line with Merchant's (2001) [E] feature, Aelbrecht proposes that ellipsis is licensed by an agree relation between the [E] feature of an elided constituent and its licensing head. A constituent is deleted as soon as the licensing head agrees with the [E] feature (Aelbrecht 2010, pp.14). Aelbrecht states that ellipsis prevents

insertion of lexical items into the ellipsis site; hence, the ellipsis site is inaccessible to narrow syntax. Ellipsis happens in the process of derivation and the rest of the structure is built up after ellipsis takes place (Aelbrecht 2010, pp.105).

The approach that Merchant (2001) and Albrecht (2010) advocate may be explanatorily adequate to account for ellipsis in English, however, it runs into some problems when it comes to ellipsis in Mandarin and Xhosa. As it turns out, in Mandarin and Xhosa, *vP* is not allowed to be deleted. According to their analysis, this predicts that in these two languages, the [E] feature cannot reside at T^0 . However, the question why T^0 in Mandarin and Xhosa does not have the [E] feature remains unsolved. Secondly, as already mentioned, the data in Chapter 3 and Chapter 6 will show that in Mandarin and Xhosa, while some objects and complements can be elided, others cannot. Merchant's (2001) and Aelbrecht's (2010) [E] feature cannot account for the reasons why the constituents that are governed by the same head are different from each other in respect of ellipsis. Thirdly, ellipsis in the Mandarin and Xhosa putative VPE construction displays the correlation to movement. The [E] feature fails to account for the parallel between ellipsis and movement.

This thesis will show that in Mandarin and Xhosa, a constituent can be deleted only when it matches certain feature and furthermore, the feature is related to *e-GIVENNESS* in Merchant's (2001) term. Therefore, in the spirit of Merchant (2001) and Aelbrecht (2010), I propose that there is an [Ellipsis] feature in the lexicon and an XP will be deleted as soon as it matches the [Ellipsis] feature. However, differing from Merchant's (2001) Focus condition and Aelbrecht's (2010) agreement proposal, I argue that in Mandarin and Xhosa, there is an independent functional category, i.e. Ellipsis Phrase, where the [Ellipsis] feature resides. In order to distinguish the [Ellipsis] feature advocated here from the one in literature, I address it as the Ellipsis EPP feature in that it is somewhat anti-EPP, which will be discussed in Chapter 4.

In summary, I have introduced the important theoretical works of ellipsis and shown the problems when they come to accounting for ellipsis in the Mandarin and Xhosa putative VPE construction. Based on the literature, I will propose a novel analysis in assuming that there is an Ellipsis Phrase and a constituent must be deleted when it moves to [Spec, EP] to satisfy the Ellipsis-EPP feature on the Ellipsis Phrase.

2.3 The putative VPE construction in Mandarin

In Mandarin, many studies have been conducted on the putative VPE construction (e.g. Huang 1988 1991, Li 2002, Ai 2006, Su 2008, Wei 2010 and Wu 2016). The main concern in those studies is whether the

putative VPE construction is genuine VPE. Huang (1988, 1991) considers the putative VPE as genuine VPE (i.e. V-stranding VPE). He argues that VPE in Mandarin is the same as English-type VPE, but it is “in disguise” owing to the V-to-Infl movement in Mandarin. Huang (1988) provides two pieces of evidence to support his claim, i.e. the sloppy reading and the locality effect of the sloppy reading, as illustrated in the example below.

(67) John₁ kanjian le ta₁ de mama, Mary₃ zhidao Bill₂ ye kanjian le [e].

John see pfv 3sg poss mother Mary know Bill also see pfv

‘John saw his mother and Mary knows that Bill did as well.’

(i) Strict reading: Bill₂ saw John₁’s mother.

(ii) Sloppy reading: Bill₂ saw Bill₂’s mother.

(iii) Locality effect: *Bill₂ saw Mary₃’s mother. (Cited from Xu 2003: (1))

In (67), the missing object in the second conjunct can refer to John₁’s mother (the strict reading) or to Bill₂’s mother (the sloppy reading), but not to Mary₃’s mother. Huang (1988) argues that owing to the locality effect, the sloppy reading can co-index to the subject of the embedded clause, but not to the subject of the main clause.

On the contrary, following Hoji (1993, 1998) and Kim (1999), Xu (2003) claims that the putative VPE construction is not VPE, but a Null Object Construction in which the object is one type of *pro*. The argument that Xu (2003) provides is that manner adverbials, which are considered to be in the *vP* domain cross-linguistically, cannot be deleted in the target clause, as shown in (68).

(68) a. John *zixiede* shua le ya, Peter ye *zixide* shua le [e].

John carefully brush pfv tooth Peter also carefully brush pfv

‘John brushed his teeth carefully and Peter also did.’

b. #⁴John *zixiede* shua le ya, Peter ye shua le [e].

John carefully brush pfv tooth Peter also brush pfv

(i) *‘John brushed his teeth carefully and Peter also did.’

(ii) ? ‘John brushed his teeth carefully and Peter also brushed his teeth.’

⁴ In the thesis, # represents that an expression is not appropriate for expressing the intended meaning, but it is grammatical on its own. * represents that an expression is completely ungrammatical or that it is not licit to express the intended meaning. ? and ?? represent that an expression is marginally grammatical.

(Adapted from Xu 2003: (10))

In (68a), the manner adverbial *zixide* ‘carefully’ cannot be deleted in order to express the meaning that *Peter also brushed his teeth carefully*. In (68b), the adverbial does not appear in the second conjunct. The clause is grammatical, but it can only be interpreted as meaning that *Bill brushed his teeth*. The adverbial cannot be reconstructed, which indicates that there is no adverbial deletion involved.

The unavailability of manner adverbials deletion is significant because according to Huang’s (1988, 1991) V-stranding VPE analysis, the verb raises to IP, and thus escapes ellipsis, but manner adverbials still remain in the *vP* and they should be deleted when VPE occurs. Therefore, the unavailability of the deletion of manner adverbials shows that Huang’s analysis is not plausible. In fact, the following studies, including Huang’s own work (Huang 1993) among others (e.g. Tsai 1994, Li 2002 and Ai 2006) argue that in Mandarin, the verb moves to *v* and the head movement stops in the *vP* domain, which will be demonstrated in Section 5.1. This further indicates that the V-stranding VPE analysis is untenable as the premise of V-stranding VPE is that the verb moves out of *vP* before VPE takes place.

With regards to the sloppy reading, Xu (2003) claims that the sloppy reading in Mandarin is not a genuine sloppy reading since, besides a strict reading and a sloppy reading, an unspecific reading (i.e. a third reading) is also possible, as illustrated in the following example.

(69) Mike₁ xian da le ta de erzi, Jeanne₂ cai da e de.

Mike first hit pfv 3sg poss son Jeanne then hit SFP

‘Mike hit his son first and then Jeanne hit (someone).’

(i) Strict reading: Jeanne₂ hit Mike₁’s son.

(ii) Sloppy reading: Jeanne₂ hit Jeanne₂’s son.

(iii) Unspecific reading: Jeanne₂ hit someone else.

(Xu 2003: (17))

In (69), besides the sloppy reading and the strict reading, the missing object can also refer to someone else, for example, Mike or Jeanne’s daughter. Therefore, Xu (2003) argues that the sloppy reading is not a genuine sloppy reading, but just one of the possible readings.

However, Li (2002) observes that in some contexts, particularly in sentences where the verb is stative or resultative, only a strict reading and a sloppy reading are available. It is not possible to have an unspecific reading. For instance, in (48), generally, the missing object in the second conjunct cannot have a third reading. Li argues that the missing object in the following example cannot have a third reading either.

(70) John₁ xihuan ta₁ de laoshi, Bill₂ ye xihuan [e].

John like 3sg poss teacher Bill also like

‘John likes his teacher and Bill does too.’

(i) Strict reading: Bill₂ likes John₁’s teacher.

(ii) Sloppy reading: Bill₂ likes Bill₂’s teacher.

(iii) *Unspecific reading: Bill₂ likes someone.

Xu’s (2003) assumption cannot account for the issue of how the sloppy reading of sentences like (67) and (70) is derived, whilst a third unspecific reading is impossible. Moreover, Xu’s analysis fails to explain why the sloppy reading in (67) is subject to the locality effect.

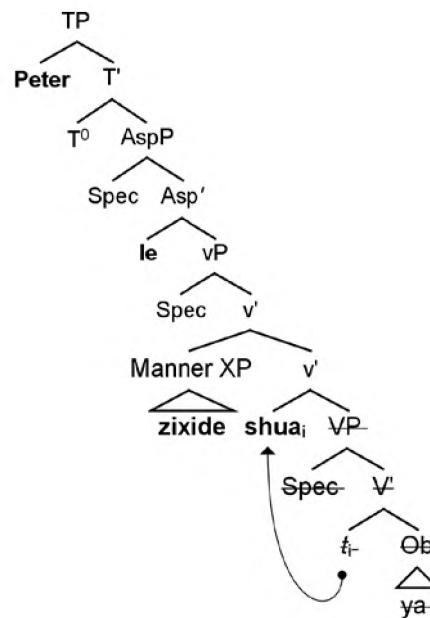
Taking the unavailability of manner adverbials deletion into account, Li (2002) and Ai (2006) argue that the putative VPE construction in Mandarin is V-stranding VPE, but unlike English-type VPE in which the little *vP* is deleted, in Mandarin, it is the big *VP* that is deleted. More precisely, Li (2002) and Ai (2006) propose that in Mandarin, V^0 moves to v^0 before VPE occurs. Assuming that manner adverbials occur at the *vP* level, they remain overt when the big *VP* is deleted since they do not fall in the *VP* ellipsis site. This is schematically represented in (71).

(71) a. Peter ye zixide shua le [e].

Peter also carefully brush pfv

‘Peter also brushed his teeth carefully.’

b. The big *VP* ellipsis



The structure in (71b) shows that the verb *shua* ‘brush’ moves to v^0 , leaving the object *ya* ‘tooth’ in the VP. The manner adverbial *zixide* ‘carefully’ occurs at the vP level. As a result, the manner adverbial survives when VP is deleted. Only the object is deleted on the surface.

The analysis proposed by Li (2002) and Ai (2006) captures the fact that manner adverbials must remain overt in the putative VPE construction, however, it also faces several problems. For instance, as Xu (2003) observes, not all types of verbs can occur in the putative VPE construction, which will be confirmed in Chapter 3 (i.e. Section 3.1.1). Furthermore, as it turns out indefinite objects cannot be deleted in Mandarin. This contradicts the prediction of the big VP ellipsis analysis. If the big VP is deleted in the putative VPE construction, all types of objects should be deleted unless they move out of VP before VPE takes place. Consider the following examples.

- (72) a. Ta xing Wang, wo ye xing Wang.
 3sg surname Wang, 1sg also surname Wang
 ‘His surname is Wang and mine is too.’
 b. *Ta xing Wang, wo ye xing [Wang].
 3sg surname Wang, I also surname [Wang]
- (73) a. John chi le liang ge pingguo, Mary ye chi le liang ge pingguo.
 John eat pfv two cl apple Mary also eat pfv two cl apple
 ‘John ate two apples and Mary also did.’
 b. #John chi le liang ge pingguo, Mary ye chi le [liang ge pingguo].
 John eat pfv two cl apple Mary also eat pfv two cl apple
 (i) *‘John ate two apples and Mary also did.’
 (ii) ?? John ate two apples and Mary also ate an apple/apples.

The sentences in (72) show that the verb *xing* must be followed by an overt object (72a). It is ungrammatical when the object is deleted (72b). In (73), in order to express the same meaning as the antecedent clause, the numeral-classifier phrase is required to occur overtly (73a). In (73b), the numeral-classifier phrase is deleted. The clause itself is marginally grammatical, but it is not appropriate for expressing the intended meaning. This indicates that the numeral-classifier phrase cannot be reconstructed if it is deleted. The big VP ellipsis assumption proposed by Li (2002) and Ai (2006) is not able to account for the ungrammaticality of (72b) and (73b).

To sum up, while some linguists claim that the putative VPE construction in Mandarin is V-stranding VPE, some argue that it is not VPE, but a Null Object construction. Those controversial conclusions are partly attributed to the fact this construction has not been well studied, and partly to the complexity of the construction. The properties like the sloppy reading and the locality effect favour the V-stranding VPE assumption. However, other properties suggest that it is not VPE. The questions arise:

- (i) Whether is the putative VPE in Mandarin genuine VPE?
- (ii) If yes, what mechanism prohibits certain type of verbs in the construction and what mechanism results in the unavailability of the deletion of indefinite objects?
- (iii) If no, why *vP/VP* cannot be deleted in Mandarin? What are the missing constituents in the putative VPE construction? How the sloppy reading of the missing constituents is derived?

The next three chapters will focus on finding the answers for these questions.

2.4 Research on ellipsis in Xhosa

No research on ellipsis in the putative VPE construction in Xhosa, to the best my knowledge, has been conducted yet. There is not much research conducted on VPE in Bantu languages either. All in all, the main studies come from Ngonyani (1995, 1996a b, 1998) and Ngonyani & Githinji (2006). Those works claim that there is V-stranding VPE in Swahili (G.40), Ndendeule (N.101), Chingoni (N.12) and Kikuyu (E.51). Following Ngonyani, Goldberg (2005) also posts that Swahili has V-stranding VPE. Ngonyani (1995, 1996a b, 1998) argues that in Swahili and Ndendeule, the verb moves to the head of IP in tensed clauses, and thus survives *vP* ellipsis. He provides a set of arguments to support his analysis. Firstly, Ngonyani claims that the object marker (OM) is required in Null Object constructions, however an object can be deleted without object marking in *vP* ellipsis, as illustrated in (74) and (75).

- (74) a. Mw-alimu a-li-nunu-a ki-tabu cha Chomsky
 1-teacher sm1-pst-buy-fv 7-book of Chomsky
 na wa-nafunzi wa-li-nunu-a [e] pia.
 and 2-student sm2-pst-buy-fv too

‘The teacher bought Chomsky’s book and the students did too.’ [Swahili, Ngonyani 1995: (28)]

b. Mw-alimu a-li-nunu-a ki-tabu cha Chomsky
 1-teacher sm1-pst-buy-fv 7-book of Chomsky
 na wa-nafunzi wa-li-ki-nunu-a [e] pia.
 and 2-student sm2-pst-om-buy-fv too
 ‘The teacher bought Chomsky's book and the students did too.’

(75) Joni a-ki-hemé nyumba na Malia a-ki-hemé [e] helahe.
 1.John sm1-pst-buy 9.house and 1.Mary sm1-pst-buy also
 ‘John bought a house and Mary did too.’ [Ndendeule, Ngonyani 1996a: (5)]

While in (74a) the object marker does not appear in the second conjunct, the object marker in (74b) is prefixed to the verb. The object is elided in the second conjunct. Both sentences are grammatical in Swahili. The sentence in (75) shows that the object, without object marking, can also be elided in Ndenduele. Ngonyani (1995) argues that this indicates that the construction is an instance of vP ellipsis rather than a Null Object construction.

Ngonyani (1995) further observes that Swahili and Ndendeule do not have Double Object markers. At most, one object marker can be attached to the verb. However, in a Double Object construction, the indirect object and the direct object can be deleted simultaneously. Ngonyani therefore concludes that in this case, it cannot be a Null Object construction as one of the objects is not object-marked.

Apart from the object, Ngonyani (1995) exhibits that in Ndendeule and Swahili, the locative and the infinitive clause complement can be deleted as well. He argues that such elements cannot be a null object. Consider the following example.

(76) a. Mama a-li-tak-a ku-m-nunul-i-a m-toto vi-atu
 mother sm1-pst-want-fv inf-om1-buy-appl-fv 1-child 8-shoe
 na baba a-li-tak-a [e] pia.
 and father sm1-pst-want-fv too
 ‘The mother wanted to buy the child shoes and father wanted to, too.’
 b. Wa-limu wa-li-end-a shamba-ni na wa-nafunzi wa-li-end-a [e] pia.
 2-teacher sm2-pst-go-fv 5.farm-loc and 2-student sm2-pst-go-fv too
 ‘The teachers went to the farm and the students did too. [Swahili, Ngonyani 1995: (31b)]

In (76a), the infinitive clause behaves as the complement and the entire clause disappears in the second

conjunct. In (76b), the locative *shambani* ‘to the farm’ is elided. Ngonyani (1995) argues that the absence of the infinitive clause and the locative complement cannot be attributed to the Null Object construction.

Lastly, Ngonyani (1995) argues that the idiomatic object cannot be pronominalized in language, however, the object in idioms can be deleted in Swahili and Ndendeule. He thereby concludes that the deletion of idiomatic objects suggests that the construction is VPE, not a Null Object construction. The contrast is illustrated in (77) and (78).

- (77) a. Dada a-li-pig-a simu.
 1.sister sm1-pst-hit-fv 9.telephone
 ‘Sister called.’
- b. *Dada a-li-i-pig-a.
 1.sister sm1-pst-om9-hit-fv
 Intended: ‘Sister called.’ [Swahili, Ngonyani 1995: (33a)]
- (78) Dada a-li-pig-a sirnu na mama a-li-pig-a [e] pia.
 1.sister sm1-pst-hit-fv 9.telephone and 1.mother sm1-pst-hit-fv also
 ‘Sister called and mother did too.’ [Swahili, Ngonyani 1995: (34a)]

The expression in (77) and (78) is an idiom, literally meaning ‘to hit the phone’. (77) shows that it is ungrammatical to delete the object when its object marker is suffixed to the verb. In contrast, (78) illustrates that it is grammatical to delete an object when no object marking occurs. Ngonyani (1995) claims that the grammaticality of (78) is attributed to vP ellipsis.

Based on these arguments, Ngonyani (1995, 1996a b) concludes that Swahili and Ndendeule have V-stranding VPE. In line with the V-stranding VPE assumption in Swahili and Ndendeule, Ngonyani & Githinji (2006) claim that Kikuyu and Chingoni also have V-stranding VPE. They observe that V-stranding VPE in these two languages has the following properties: (i) the ellipsis site can have a sloppy reading (cf. (79)); (ii) the object in idiomatic chunks can be deleted (cf. (80)); (iii) it can occur in syntactic islands (cf. (81)).

- (79) a. Juma₁ nĩ-a-ra-thom-a i-buku ri-ake₁,
 1.Juma foc-sm1-prog-read-fv 5-book poss.5-3sg
 na Jamila₂ nĩ-a-ra-thom-a [~~i-buku ri-ake~~] onake.
 and 1.Jamila foc-sm1-prog-read-fv 5-book poss.5-3sg also
 ‘Juma is reading his book, and Jamila is too.’

(i) Strict reading: Jamila₂ is reading Juma₁'s book.

(ii) Sloppy reading: Jamila₂ is reading Jamila₂'s book. [Kikuyu]

b. Zenda₁ i-lim-a m-gunda w-ake₁

1.Zenda prs-cultivate-fv 3-farm poss.3-3sg

na Mvula₂ i-lim-a [~~m-gunda-w-ake~~] mewa.

and Mvula prs-cultivate-fv 3-farm poss.3-3sg also

‘Zenda is cultivating his farm and Mvula is too.’

(i) Strict reading: Mvula₂ is cultivating Zenda₁'s farm.

(ii) Sloppy reading: Mvula₂ is cultivating Mvula₂'s farm. [Chingoni]

(Ngonyani & Githinji 2006: (17))

(80) a. Njoki nĩ-a-ring-a mũ-kũyũ, na Njeri nĩ-a-ring-a [e] onake. [Kikuyu]

Njoki foc-sm1-hit-fv 3-fig tree and Njeri foc-sm1-hit-fv also

Lit.: ‘Njoki has hit the fig tree and Njeri has too (Njoki has become lucky and Njeri has too).’

b. Moyo a-geg-i mdala na Kifaru a-geg-i [e] mewa. [Chingoni]

1.Moyo sm1-carry-fv 1.woman and 1.kifaru sm1-carry-fv also

Lit.: ‘Moyo carries a woman and Kifaru does too (Moyo is married and Kifaru is too).’

(Ngonyani & Githinji 2006: (24))

(81) a. I-buku rĩ-rĩa rĩ-rĩ-na mbica na rĩ-ngĩ rĩ-rĩa rĩ-ta-rĩ [e].

5-book sm5-that sm5-is-with 9.pictures and sm5-another sm5-that sm5-neg-is

‘A book which has pictures and another which does not.’ [Kikuyu]

b. I-jov-a mwanja i-geg-a m-dala yu-ngi

prs-say-fv fut prs-carry-fv 1-woman 1-other

na ne ni-many-i [ndava ya ki mwanja i-geg- [e]].

and 1sg 1sg-know-prf because of what fut prs-carry-fv

‘He says he will marry another wife and I know why he will.’ [Chingoni]

(Ngonyani & Githinji 2006: (25))

In (79a), the missing object in Kikuyu can be identical to its antecedent (i.e. the strict reading). Alternatively, it can also co-index to the subject of the second conjunct (i.e. the sloppy reading). Likewise, (79b) shows that the missing object in Chingoni can also have a strict reading and a sloppy reading. In (80), the idiomatic object is deleted and both sentences are grammatical. In (81a), the ellipsis site occurs in a Complex NP island (i.e. relative clause). In (81b), the ellipsis site occurs in an Adjunct island. Both sentences are grammatical. Based on these properties, Ngonyani & Githinji (2006) conclude that the construction in Kikuyu and Chingoni is V-stranding VPE.

It is worthwhile to point out that Ngonyani & Githinji (2006) claim that in Kikuyu and Chingoni, manner adverbials can be deleted in the target clause. They provide example (82) to support their argument.

(82) V-ana va-kali-tunu *yemb kanyata-kanyata*,
 2-child sm2-pst-pick 10.mango quickly-quickly
 na dadi w-avi a-kali-tungu [e] mewa.
 and 1.father poss.1-3sg sm1-pst-pick also

‘Children were picking mangoes quickly and their father was also picking mangoes.’

[Chingoni, Ngonyani & Githinji 2006: (26)]

In (82), the manner adverbial *kanyata-kanyata* ‘quickly’ does not appear in the second conjunct. According to Ngonyani & Githinji (2006), the second conjunct means that the father picked mangoes, but not necessarily quickly. Ngonyani & Githinji (2006) argue that the interpretation of the deleted manner adverbials in Chingoni is parallel to that in English VPE. However, the deleted manner adverbials in English VPE must be semantically recovered. Consider the English counterpart of (82), which is illustrated in (83).

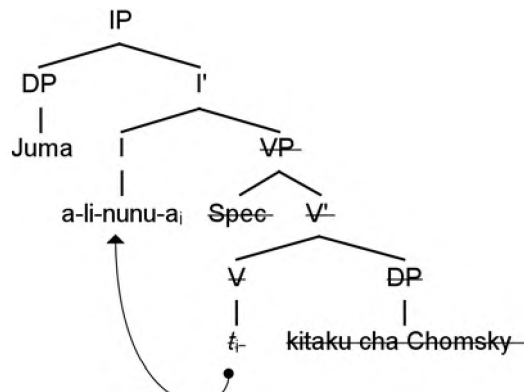
(83) The children were picking mangos quickly and their father was [e] too.

In (83), the second conjunct can only be interpreted as meaning that the father was picking mangos quickly. This sentence is not appropriate to use if the father was doing it SLOWLY. The contrast illustrated in (82) and (83) suggests that no manner adverbial deletion occurs in Chingoni. If the manner adverbial is deleted in the target conjunct of (82), it must be recovered semantically. If this holds true, we need to reconsider Ngonyani & Githinji’s (2006) conclusion. However, I will not go into the discussion about this issue as my concern of this study is ellipsis in Xhosa, so I leave it for the future research.

As the typical analysis on V-stranding VPE in languages like Hebrew and Irish, Ngonyani (1995, 1996a b, 1998) and Ngonyani & Githinji (2006) claim that in Swahili, Ndendeule, Kikuyu and Chingoni, the verb moves to I and consequently escapes vP ellipsis. This is schematically represented in (84).

(84) a. Juma a-li-nunu-a [~~ki-tabu-cha-Chomsky~~].
 1-juma sm1-pst-buy-fv 7-book of Chomsky
 ‘Juma bought Chomsky’s book.’

b.



(Adapted from Ngonyani 1995: (30))

In summary, Ngonyani (1995, 1996a b, 1998) and Ngonyani & Githinji (2006) claim that the four Bantu languages, namely Swahili, Ndendeule, Kikuyu and Chingoni have V-stranding VPE. Assuming this conclusion is on the right track, on account of the cognate relation between these Bantu languages and Xhosa, it is reasonable to assume that Xhosa also has V-stranding VPE. To my best knowledge, no research on the putative VPE construction in Xhosa has been done yet. An in-depth discussion is needed in order to find out whether the construction is genuine VPE or not.

2.5 Conclusion

This chapter reviews the VPE phenomenon in English and in V-stranding VPE languages. In the latter, although the main verb may not be deleted on the surface, there is VPE. The verb moves to the head of IP/TP for some independent reasons and thus survives vP ellipsis. I then provide an overview of the theories of ellipsis. A number of theories have been proposed to account for the nature and licensing conditions of ellipsis. Each theory functions in a certain way, however they have also been challenged in literature. In addition, the majority of these theoretical frameworks are based on ellipsis in English. As a result, further research needs to be done in order to examine whether they are adequate to account for ellipsis in each individual language. I show the problems when these theories come to the ellipsis phenomenon in Mandarin and Xhosa. The last two sections provide an overview of the problems and gaps in the study of the putative VPE construction in Mandarin and Xhosa, which underlines the necessity and importance of this study.

Chapter 3 Ellipsis in the ν P domain in Mandarin

3.0 Introduction

Section 2.3 has demonstrated the debate about the putative VPE construction in Mandarin. While some studies (e.g. Huang 1989 1991, Li 2002 and Ai 2006) state that the putative VPE construction is V-stranding VPE, some (e.g. Xu 2003) argue that it is a Null Object construction. Both sides provide evidence to support their arguments. In order to disclose the paradox and to establish the essential characteristics of the putative VPE construction, this chapter focuses on seeking the properties and distribution of this construction. Through a thorough investigation, it turns out that neither ν P nor VP can be deleted in Mandarin. In other words, Mandarin does not have V-stranding VPE. The evidence for this conclusion includes: (i) not all types of verbs are allowed to appear in the putative VPE construction. (ii) While definite objects can be deleted, indefinite objects must remain overt in the target clause. (iii) ν P-adverbials, including preverbal adverbials and postverbal adjuncts, cannot be deleted. (iv) The *de*-clause complement is prohibited from being elided. (v) In the Double Object construction, the objects can both be missing at the same time, but the missing objects are not necessarily recovered semantically. This property suggests that the absence of the direct and indirect object is not necessarily derived from VPE in that the elided objects must be reconstructed simultaneously in VPE. These properties lead us to conclude that neither ν P nor VP in the putative VPE construction in Mandarin may be deleted.

However, there is a range of evidence, which shows that the missing constituents in the putative VPE are instances of PF-deletion (i.e. ellipsis). The evidence covers: (i) the missing constituents can have a sloppy reading and a mixed reading. The sloppy reading is subject to the locality effect. (ii) Extraction from the missing constituents is allowed. (iii) The missing constituents can provide an antecedent for pronominal anaphors and (iv) the missing constituents are not sensitive to the island effects. These four traits suggest that the missing constituents in the putative VPE are PF-deletion, not deep anaphora like *pro*-forms. That is to say, there is indeed ellipsis taking place in the putative VPE construction, covering NP, DP and CP ellipsis, but not ν P ellipsis unless the ν P is governed by a modal.

This chapter is organized as follows. In Section 3.1, I carry out a fine-grained investigation on the verb, object, complement and adjunct in the putative VPE construction. The findings show that neither ν P nor VP is allowed to be deleted in the putative VPE construction. In Section 3.2, I list the elidable constituents in the putative VPE construction. In Section 3.3, by exploiting the diagnostics that have been used to

distinguish PF-deletion from deep anaphora in literature, I show that the missing constituents in the putative VPE construction are instances of PF-deletion. Section 3.4 provides a summary of the chapter.

3.1 Non-existence of V-stranding VPE in Mandarin

Although, as shown in Section 2.3, an amount of research has been conducted on the putative VPE construction in Mandarin, to my best knowledge, no research has explored the properties of each constituent such as the verb, object and adjunct in the construction. It is important to find out the restrictions on the ν P-internal constituents of the putative VPE construction. If it is genuine VPE, but the verb moves out of ν P before VPE occurs and escapes ellipsis (i.e. V-Stranding VPE), all the constituents that remain in ν P must be deleted. If such constituents cannot be deleted, it implies that ν P is not deleted. This section focuses on the properties of each constituent in the putative VPE construction. By exploring the properties of ν P-internal constituents, a set of empirical arguments are provided to support that neither VP nor ν P is deleted. The putative VPE construction is not VPE in Mandarin.

This section is structured as follows. In Section 3.1.1, I examine the verb in the putative VPE construction and show that the so-called independent verbs may not occur in the construction. In Section 3.1.2, the object is investigated. The findings show that while definite objects can be deleted, indefinite objects must remain overt in the target clause. I further demonstrate that indefinite objects in Mandarin must remain inside ν P due to the Existential Closure. This indicates that ν P cannot be deleted. Section 3.1.3 focuses on ν P-adverbials and exhibits that neither preverbal manner adverbials nor postverbal adjuncts are allowed to be deleted in the putative VPE construction. Through examining their syntactic position, I show that those adverbials and adjuncts occur in the ν P level. This suggests that ν P is not deleted. In Section 3.1.4, I scrutinise the *de*-clause and show that it serves as a complement of verbs, however, it cannot be deleted in the putative VPE construction either. Section 3.1.5, I discuss the deletion in the Double Object construction. The direct and indirect object can be missing at the same time, however, the missing objects are not necessarily reconstructed simultaneously, which suggests that the deletion of the objects is not necessarily resulted in by VPE. Finally, Section 3.1.6 provides a summary of this section.

3.1.1 Restrictions on the verb

In Mandarin, the verb remains overt in the putative VPE construction. If the construction is VPE, it must be V-stranding VPE. Given that the syntactic and semantic requirements of VPE are met, all types of verbs should be able to appear in V-stranding VPE. However, in Mandarin, the so-called dependent verbs may

not occur in the putative VPE construction due to the interaction between the transitivity and θ -role assignment of the verbs. The dependent verbs, which have a low transitivity, can only assign a θ -role to an overt object. But a verb should assign a θ -role to the object before VPE takes place. Therefore, we would expect that the dependent verbs should be able to occur in the putative VPE construction if it is V-stranding VPE. The unavailability of the dependent verbs in the putative VPE construction suggests that the construction is not V-stranding VPE.

3.1.1.1 The stranding of the verb

Like V-stranding VPE in languages such as Hebrew and Irish (Doron 1990 1998, Goldberg 2005 and McCloskey 2005 among others), in Mandarin, the verb must remain overt in the putative VPE construction. Not surprisingly, tense and aspect particles must also remain overt. For example, the verbal aspectual markers, including the durative marker *zhe*, the perfective marker *le_v*, and the experiential marker *guo*⁵, and the sentence-final particles (SFP henceforth) such as the perfect marker *le_s*⁶, the recent past marker *laizhe* and the progressive marker *ne* must remain overt in the target clause, as illustrated in the following examples.

(1) a. John xihuan pingguo, Mary ye [_{VP} xihuan [_{DP} pingguo]].

John like apple Mary also like apple

‘John likes apples and Mary does too.’

b. *John xihuan pingguo, Mary ye [_{VP} ~~xihuan pingguo~~].

John like apple Mary also like apple

Intended: ‘John likes apples and Mary does too.’

(2) a. John biaoyang *le* ta de erzi, Mary ye biaoyang *le* [_{DP} ~~ta de erzi~~].

John praise pfv 3sg poss son Mary also praise pfv 3sg poss son

‘John praised his son and Mary did too.’

⁵Some linguists (e.g. Dragunov 1952, Zhang 1957, Yakhontov 1957, Ross & Luo 1995 and Li 2002) consider the verbal *le* and *guo* to be tense markers, whereas others (e.g. Lü 1943, Gao 1948 and Li & Thompson 1981) claim that they are aspectual markers. In this thesis, I argue that they are aspectual markers, which will be discussed in Section 5.1.

⁶ Traditionally, the perfective marker *le* is marked as *le₁* and the perfect marker *le* is marked as *le₂* (e.g. Lin 2000, Shen 2004, Jin & Hendriks 2005 and Xiao & Shen 2009). In this thesis, for the purpose of exposition, the former *le* is marked as *le_v* in that it serves as a verbal suffix and the latter is marked as *le_s* in that it is a sentence-final particle.

b. *John biaoyang *le* ta de erzi, Mary ye biaoyang [~~*le*—*ta*—*de*—*erzi*].
 John praise pfv 3sg poss son Mary also praise pfv 3sg poss son
 Intended: ‘John praised his son and Mary did too.’~~

(3) a. John xue *guo* Hanyu, Mary ye xue *guo* [_{DP} ~~Hanyu~~].
 John study exp Mandarin, Mary also study exp Mandarin
 ‘John studied Mandarin and Mary did too.’

b. *John xue *guo* Hanyu, Mary ye xue [~~*guo*—Hanyu~~].
 John study exp Mandarin Mary also study exp Mandarin
 Intended: ‘John studied Mandarin and Mary did too.’

(4) a. John chi wufan *le*, Mary ye chi [~~wufan~~] *le*.
 John eat lunch prf Mary also eat lunch prf
 ‘John has had lunch Mary has too.’

b. *John chi wufan *le*, Mary ye chi [~~wufan~~—*le*].
 John eat lunch prf Mary also eat lunch prf
 Intended: ‘John has had lunch Mary has too.’

In (1a), while the object *pingguo* ‘apple’ is deleted, the verb remains overt. This sentence is thus grammatical. In (1b), the verb and the object are both deleted. This sentence becomes ungrammatical. The examples (2-4) illustrate that the perfective marker *le_v*, the experiential marker *guo* and the perfect marker *le_s* are not allowed to be deleted, respectively. If these particles are elided, the target clauses become infelicitous for expressing the intended meaning (2b-4b). It should point out that the second conjunct in (2b-4b) is grammatical on their own. For example, the second clause in (3b) itself is grammatical, meaning that *Mary also studies Mandarin*. Under this interpretation, no deletion of the experiential marker *guo* occurs.

3.1.1.2 Unavailability of the dependent verb in the putative VPE

Although Mandarin is similar to V-stranding VPE languages in the sense that the verb remains overt, not all verbs are allowed to occur in the putative VPE construction in Mandarin. Some transitive verbs must be followed by an overt object or an overt complement to be grammatical. The sentence would become ungrammatical or infelicitous to express the intended meaning if its object or complement is deleted. Such a verb cannot occur in the putative VPE construction, as shown in the examples below.

- (5) a. Ta *xing* Wang, wo ye *xing* Wang.
 3sg surname Wang, 1sg also surname Wang
 ‘His surname is Wang and mine is too.’
- b. *Ta *xing* Wang, wo ye *xing* [~~Wang~~].
 3sg surname Wang, 1sg also surname [~~Wang~~]
 Intended: ‘His surname is Wang and mine is too.’
- (6) a. John *duanzheng* le ta de xuexi taidu,
 John correct pfv 3sg poss study attitude
 Mary ye *duanzheng* le ta de xuexi taidu.
 Mary also correct pfv 3sg poss study attitude
 ‘John corrected his attitude of studying Mary did too.’
- b. *John *duanzheng* le ta de xuexi taidu,
 John correct pfv 3sg poss study attitude
 Mary ye *duanzheng* le [~~ta de xuexi taidu~~].
 Mary also correct pfv 3sg poss study attitude
 Intended: ‘John corrected his attitude of studying Mary did too.’
- (7) a. Zhe ge rongyu *shu-yu* jiti, jiangjin ye *shu-yu* jiti.
 dem cl honor belong to collective bonus also belong to collective
 ‘This honour belongs to the collective and the bonus does too.’
- b. *Zhe ge rongyu *shu-yu* jiti, jiangjin ye *shu-yu* [~~jiti~~].
 dem cl honor belong to collective, bonus also belong to [collective].
 Intended: ‘This honour belongs to the collective and the bonus does too.’
- (8) a. Zhongguo zhengfu *gei-yi* le dali de zhichi,
 China government give pfv strong gen support
 Nanfei zhengfu ye *gei-yi* le dali de zhichi.
 South Africa government also give pfv strong gen support
 ‘The Chinese government gave strong support and the South African government did too.’
- b. *Zhongguo zhengfu *gei-yi* le dali de zhichi,
 China government give pfv strong gen support
 Nanfei zhengfu ye *gei-yi* le [~~dali de zhichi~~].
 South Africa government also give pfv strong gen support
 Intended: ‘The Chinese government gave strong support and the South African government did too.’

In (5-8), although the antecedent appears in the first conjunct, the object must remain overt in the target clause (5a-8a). The sentences are ungrammatical when the object is deleted (5b-8b). This illustrates that these verbs are prohibited in the putative VPE construction.

In this respect, the putative VPE in Mandarin is different from English-type VPE and V-stranding VPE in which, as far as the literature shows, all types of verbs are allowed to occur. The interesting questions are why these verbs cannot appear in the putative VPE construction in Mandarin and whether this phenomenon argues for or against the V-stranding VPE assumption. In what follows, I discuss the characteristics of these verbs to find out the reasons why they are prohibited in the putative VPE construction.

The verbs in (5-8) are traditionally called ‘verbs bound with the object’ (e.g. Zhu 1981, Wang 1988, Yin 1991, Yang 1992, Lin 1996, Wu 1994, Liu 1999, Jin 2001, Fan 1995 and Mao 2010). In this thesis, I dub this type of verbs “the dependent verbs” as they must be followed by an overt object or complement. It would be ungrammatical if their object or complement moved to another position or was deleted. Mao (2010) classifies the dependent verbs into three subcategories, namely the monosyllabic verbs, valence-ambiguous verbs and V-Preposition verb (V-P_{rep} henceforth). The monosyllabic verbs refer to verbs that have one syllable. One of the most important trends of Mandarin evolution is disyllabification. In Ancient Chinese, the word is typically monosyllabic. The word in Modern Mandarin is generally disyllabic (Wang 1988). The disyllabification has a strong influence on Mandarin syntax. Owing to the disyllabification, many monosyllabic words may not be used independently anymore; instead, they can only be used as morphemes to construct words (Luo 1990, Wu 2003 and Xu 2005 among others). As a result, many monosyllabic verbs require an overt constituent - an overt object, complement or adjunct - to satisfy the prosodic restriction. In this sense, we would expect that such verbs cannot appear in the putative VPE construction in which no overt constituent follows the verb. Put it differently, the unavailability of monosyllabic verbs in the putative VPE construction is not related to ellipsis, but the prosodic requirement.

The V-P_{rep} verbs consist of a monosyllabic verbal morpheme and a preposition. For instance, the verb *shu-yu* in (7) comprises the verbal morpheme *shu* ‘to link/attach/connect’ and the preposition *yu* ‘to/at/on/in’. The verb *gei-yi* in (8) comprises *gei* ‘to give’ and the preposition *yi* ‘with/by’. In fact, *gei* ‘to give’ can be used independently if there is an overt element like an object or a tense/aspectual particle following it. This type of verbs is derived from the Verb-Preposition-Noun construction in Ancient Chinese owing to disyllabification (Gao 2008). Cross-linguistically, prepositions require an overt object to assign Case. For instance, in English, the preposition *for* must be followed by an overt DP to assign the Case (Polinsky & Preminger 2014). Similarly, in Mandarin, prepositions also require an overt object. Consider the contrast between (a) and (b) in the examples below.

- (9) a. It is impossible *for* him to admit such a thing.
 b. *It is impossible *for* [e] to admit such a thing. (Adapted from Polinsky & Preminger 2014: (27))
- (10) a. *Duiyu zhe jian shi wo bu tai qingchu.*
 about dem CL affair 1sg neg very clear
 ‘About this affair, I am not very clear.’
 b. **Duiyu [e], wo bu tai qingchu.*
 about 1sg neg very clear
- (11) a. *Wo zai chaoshi mai de mianbao.*
 1sg at supermarket buy SFP bread
 ‘I bought the bread at the SUPERMARKET (not the bakery).’
 b. **Chaoshi_i, wo zai t_i mai de mianbao.*
 Supermarket 1sg at buy SFP bread

The sentences in (9) illustrate that the preposition *for* must be followed by an overt DP (9a). It is ungrammatical when an EC appears after the preposition (9b). Likewise, in Mandarin, it is ungrammatical when the preposition *duiyu* ‘about’ in (10b) and *zai* ‘at/in/on’ in (11b) are followed by an EC. An overt DP is required in the object position as shown in (10a) and (11a). This indicates that prepositions in Mandarin require an overt object DP. As a result, the V-P_{rep} verbs in which the second element is a preposition requires an overt object; hence, they cannot occur in the putative VPE construction where no overt object occurs. This suggests that the unavailability of V-P_{rep} verbs in the putative VPE is not related to the V-stranding VPE. In other words, it is not a counter-argument for the V-stranding VPE analysis.

Now let us look at the valence-ambiguous verbs, which are traditionally called ‘adjective-verb multiclass words’ (e.g. Zhu 1982 and Mao 2010 among others). This type of verbs can behave as an intransitive verb/adjective or as a transitive verb. For example, in (6), *duanzheng* ‘to correct’ acts as a transitive verb and assigns two θ -roles, one to the subject and one to the object. However, when no overt object appears, it only assigns one θ -role to the subject. Consider the examples below.

- (12) John de xuexi taidu hen duanzheng.
 John poss study attitude very correct.
 ‘John’s attitude to studying is correct.’
- (13) a. Mama bai le hen duo toufa.
 Mother white pfv very many hair
 ‘Many mother’s hairs have become white.’

- b. Mama de toufa *bai* le.
 mother poss hair white prf
 ‘Mother’s hair has become white.’
- (14) a. Zhengfu de zhengce fanrong le shichang.
 government poss policy thrive pfv market
 ‘The government’s policy has made the market thrive.’
- b. #Zhengfu de zhengce fanrong le (*e).
 government poss policy thrive pfv
 (i) *‘The government’s policy has made the market thrive.’
 (ii) ‘The government’s policy has thrived.’
- (15) a. Riben dui dabai le Zhongguo dui.
 Japan team beat pfv China team
 ‘The Japanese team beat the Chinese team.’
- b. #Riben dui dabai le (*e).
 Japan team beat pfv
 (i) *‘The Japanese team beat the Chinese team.’
 (ii) ‘The Japanese team was beaten.’

By comparison with (6), in (12) no object appears overtly. *Duanzheng* ‘correct’ acts as an intransitive and only assigns one θ -role to the subject. In (13a), *bai* ‘white’ assigns two θ -roles, one to the subject and one to the object. However, in (13b) it only assigns one θ -role to the subject. This indicates that the valence-ambiguous verbs cannot assign a θ -role to a covert object. In (14a), the verb *fanrong* ‘to thrive’ assigns an agent role to the subject *zhengfu de zhengce* ‘government’s policy’ and a patient role to the object *shichang* ‘market’. However, in (14b), no overt object follows the verb. Consequently, the verb only assigns a theme θ -role to the subject. In this case, it is not possible for the verb to assign a θ -role to a covert object. Similarly, in (15a), the subject *Ribendui* ‘Japanese team’ is the agent, and *Zhongguodui* ‘Chinese team’ is the patient. However, in (15b), the subject *Ribendui* ‘Japanese team’ becomes the patient. This sentence can only be interpreted as meaning that *the Japanese team was beaten*, but not *the Japanese team beat some team*.

The above examples show that in sentences with an overt object, this type of verbs behaves as two-place verbs. It assigns one θ -role to the subject and one to the object. However, if there is no overt object, it acts as one-place verbs and only assigns one θ -role to the subject. To put it differently, the valence-ambiguous verbs cannot assign a θ -role to a covert object. If a DP was deleted from the object position, the syntactic and semantic relation between the verb and its arguments would be completely changed.

Yin (1991) claims that this type of verbs has the weak [+verb] feature and thus it cannot assign a θ -role to an EC object. In line with Yin (1991), Mao (2010) claims that the dependent verbs have a low [+transitive] feature. As a result, the object must remain close to the verb and remain overt as well to maintain a semantic and syntactic relation with the verb. Cross-linguistically, while some verbs have a strong [+verb] feature, others have a weak [+verb] feature. Some have a high transitivity and others have a low transitivity. But the question is why in Mandarin the verbs with a low transitivity must be followed by an overt object, whereas the ones with a high transitivity can be followed by a covert object⁷.

Mandarin is an isolating language and lacks morphological inflection. There is no morphological agreement or Case-marking system. Therefore, Mandarin is an instance of configurational languages in terms of Case-assigning. In such a language, Case is determined by the structural position of an argument relative to some lexical head and to other DPs in a clause (for more details, see Yip et al. 1987, Marantz 2000, Bobaljik 1993, Laka 1993, Bittner & Hale 1996 and Polinsky & Preminger 2014). Bobaljik (1993) and Laka (1993) claim that in a configurational language, Case assignment heavily depends on the presence of another Case-marked DP in their local vicinity. This captures the phenomenon observed in Mandarin. Valence-ambiguous verbs, which have a weak [+transitive] feature, require a close and overt object to assign the θ -role, which is directly relevant to Case. However, verbs with a high transitivity are not subject to this restriction. They can assign a θ -role to an EC object, as illustrated the example below.

- (16) a. John chi le zaofan cai zou de.
 John eat pfv breakfast only leave pst
 ‘John only left after he ate breakfast.’
 b. John chi le [e] cai zou de.
 John eat pfv only leave pst
 ‘John only left after he ate (breakfast).’

Comparing to (14b) and (15b) in which the verb fails to assign a θ -role to the EC object, in (16), the verb *chi* ‘to eat’ has a strong [+transitive] feature and assigns a θ -role to the EC object (16b).

⁷ To my best knowledge, the same phenomenon is not found in V-stranding VPE. It does not exist in Xhosa either. As it turns out, in Xhosa, regardless of the type of verbs, the object can be deleted as long as its object marker is attached to the verb (Section 6.1.2).

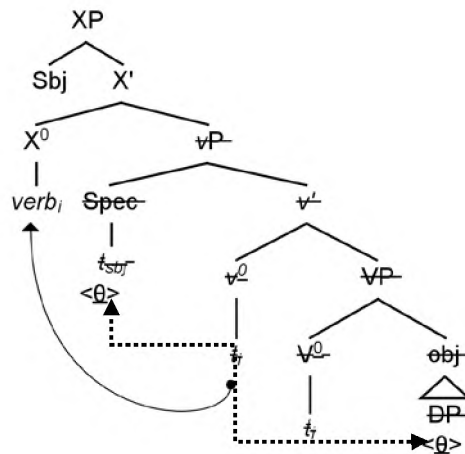
The contrast between the valence-ambiguous verbs which have a weak [+transitive] feature and the verbs with a strong [+transitive] feature suggests that the unavailability of valence-ambiguous verbs in the putative VPE construction is attributed to the analytic characteristics of Mandarin and the [+transitive] feature of verbs. Based on this, I propose the generalisation (17) to account for the interaction between transitivity and θ -role assignment in Mandarin.

(17) The generalisation on the transitivity and θ -role assignment of verbs in Mandarin

In Mandarin, as a configurational language, a verb with a strong [+transitive] feature can assign a θ -role to an overt and a covert object. The verbs with a weak [+transitive] feature can only assign θ -roles to an overt object.

This generalisation suggests that the putative VPE construction is not genuine VPE. If it was VPE, the valence-ambiguous verb should be able to occur in the construction. To be specific, the verb assigns a θ -role to the object before it moves out of vP . In other words, the valence-ambiguous verbs would assign a θ -role to the object and then moves to a higher position, which is followed by VPE. This is schematically represented in (18).

(18) The θ -role assigning and vP ellipsis



In this structure, v assigns θ -roles to the arguments, including the subject and the object⁸, and then moves to X^0 for some independent reasons. Afterwards, the vP is deleted. Therefore, the interaction between the transitivity and θ -role assignment of a verb should not play a role in vP ellipsis as the θ -role is assigned to

⁸ In this thesis, the big V refers to the verb root. Following Lin (2001) and Huang et al. (2009), I assume that it is the little v , which is dubbed Light Verb by them, not the big V that assigns θ -roles in Mandarin.

the object before the verb moves out of vP . We would expect that the valence-ambiguous verbs can occur in vP ellipsis. This prediction is opposite to the fact that the valence-ambiguous verbs cannot occur in the putative VPE construction (cf. (5-6)), which indicates that the putative VPE construction in Mandarin is not genuine VPE (i.e. V-stranding VPE).

To sum up, in Mandarin, three types of verbs - monosyllabic verbs, $V-P_{rep}$ verbs and valence-ambiguous verbs - cannot appear in the putative VPE construction. The monosyllabic verbs cannot occur in the construction because of the prosodic constraint. The unavailability of $V-P_{rep}$ verbs in the construction is attributed to the fact that the prepositions require an overt object to assign the Case. These two types of verbs are not relevant to the V-stranding VPE analysis. However, the unavailability of valence-ambiguous verbs in the putative VPE argues against the V-stranding VPE analysis. Provided that the verb moves out of the vP in Mandarin, it must assign the θ -role to the object before the movement. Therefore, if the putative VPE construction was V-stranding VPE, the valence-ambiguous verbs should be able to occur in the construction as vP ellipsis occurred only after the verb moved out of the vP .

3.1.2 Restrictions on the object

In Mandarin, while definite objects can be deleted in the putative VPE construction, indefinite objects cannot. Crucially, Mandarin is sensitive to the Existential Closure. While definite objects can move out of vP , indefinite objects must remain in vP . The unavailability of indefinite objects deletion strongly suggests that vP cannot be deleted in the putative VPE construction.

3.1.2.1 Unavailability of indefinite objects deletion

Before going into the discussion about the deletion of objects, I would like to clarify the definition of the definite and indefinite adopted in this thesis. Christophersen (1939) proposes that the distinction between the definite and the indefinite is that the hearer is presumed to be acquainted with the referent of a definite DP, but not of an indefinite DP. Strawson (1950) and Heim (1982, 1983) argue that the definite refers to referential DPs and the indefinite asserts the existence or uniqueness of an entity in a particular discourse. Heim (1982) further claims that the definite such as pronouns is subject to the familiarity condition and the indefinite is subject to the novelty condition, i.e. the referent of an indefinite NP is introduced into the discourse for the first time. In this research, I adopt Heim's (1982) definition and assume that the definite refers to referential DPs and it is subject to the familiarity condition. The indefinite refers to the existence

of an entity and it is subject to the novelty condition. Keeping this in mind, let us look at the distinction between definite and indefinite objects in the putative VPE construction in Mandarin.

In Mandarin, not all objects are allowed to be deleted in the putative VPE construction. While Proper Nouns, pronouns, demonstrative DPs, possessive DPs and DPs with a universal quantifier can be deleted from the object position, numeral-classifier phrase DPs and other quantitative phrase DPs must remain overt at the object position. Observe the data in (19-25):

- (19) John renshi *Mary*, Peter ye renshi [~~*Mary*~~].
 John know *Mary* Peter also know *Mary*
 ‘John knows *Mary* and Peter does too.’ (Proper Noun)
- (20) John jiao guo *tamen*, Peter ye jiao guo [~~*tamen*~~].
 John teach exp them, Peter also teach exp them
 ‘John taught them before and Peter did too.’ (Pronoun)
- (21) John chang guo *zhe liang shou ge*, Mary ye chang guo [~~*zhe liang shou ge*~~].
 John sing exp dem two CL song Mary also sing exp dem two CL song
 ‘John sang these two songs before and Mary did too.’ (Demonstrative DP)
- (22) John xihuan *ta de xuesheng*, Peter ye xihuan [~~*ta de xuesheng*~~].
 John like 3sg poss student Peter also like 3sg poss student
 ‘John likes his students and Peter does too.’ (Possessive DP)
- (23) John du-wan le *suoyou de shu*, Mary ye du-wan le [~~*suoyou de shu*~~].
 John read-finish pfv all gen book Mary also read-finish pfv all gen book
 ‘John read all the books and Mary did too.’ (DP with a universal quantifier)
- (24) a. *John mai le *san ben shu*, Mary ye mai le [~~*san ben shu*~~].
 John buy pfv three CL book Mary also buy pfv three CL book
 Intended: ‘John bought three books and Mary did too.’
 b. John mai le *san ben shu*, Mary ye mai le *san ben* [~~*shu*~~].
 John buy pfv three CL book Mary also buy pfv three CL book
 ‘John bought three books and Mary did too.’ (Numeral-Classifier DP)
- (25) a. *John chi le *henduo pingguo*, Mary ye chi le [~~*henduo pingguo*~~].
 John eat pfv many apple Mary also eat pfv many apple
 Intended: ‘John ate many apples and Mary did too.’
 b. John chi le *henduo pingguo*, Mary ye chi le henduo [~~*pingguo*~~].
 John eat pfv many apple Mary also eat pfv many apple

‘John ate many apples and Mary did too.’

(Quantitative DP)

The sentence in (19) is perfectly grammatical when the Proper Noun *Mary* is deleted from the object position in the target clause. Likewise, in (20-23), the pronoun, demonstrative DP, possessive DP and DP with a universal quantifier object are deleted, respectively. These sentences are all felicitous. In contrast, (24a) illustrates that the sentence is not felicitous to express the intended meaning when the numeral-classifier phrase object is deleted. The numeral-classifier phrase must remain overt in order to express the intended meaning (24b). It is interesting that in (24b) while the numeral classifier phrase remains overt obligatorily, the NP complement can be deleted, which I will discuss later (i.e. Section 3.2.2). Likewise, in (25), the quantifier *henduo* ‘many/much’ is also required to be overt (cf. (25b)). The sentence in (25a) is acceptable only if the second conjunct is interpreted as meaning that Mary ate an apple/apples regardless of the amount of apples, i.e. she might just have one bite.

Now let us explore the properties of these object DPs to find out what results in the contrast between the grammaticality of (19-23) and ungrammaticality of (24a -25a). At first glance, the objects in (19-23) are definite and referential, whereas the ones in (24-25) are indefinite and existential. Nevertheless, in order to ensure that this observation indeed holds true, I exploit the Existential Construction as a diagnostic to test the definiteness of DPs. Abbott (2004) argues that the Existential construction (i.e. *there be* sentence) in English requires an indefinite DP in the object position. She demonstrates that bare nouns, including plural and mass nouns, and DPs modified by a numeral phrase are allowed to occur in the Existential construction, whereas Proper Nouns, demonstrative DPs and possessive DPs may not appear in this construction. He thereby concludes that while the former are indefinite, the latter are definite.

The Existential construction in Mandarin is the same as that in English in the sense that only indefinite DPs are allowed to occur in the object position (Gu 1992 and Song 1987, 1992 among others). Following Abbott (2004), let us check the definiteness of the objects that can be deleted in the putative VPE and the ones that cannot. Consider the following examples.

(26) *Menkou zhan zhe *Mary*. (Proper Noun)

doorway stand dur Mary

Intended: ‘Mary is standing at the doorway.’

(27) *Jiaoshi li zuo zhe *tamen*. (Pronoun)

classroom loc sit dur them

Intended: ‘They are sitting in the classroom.’

- (28) **Shu shang you na san zhi niao.* (Demonstrative DP)
 tree loc have dem three CL bird
 Intended: ‘Those three birds are on the tree.’
- (29) **Jiaoshi li you suoyou de xuesheng.* (DP with a universal quantifier)
 classroom loc have all gen student
 Intended: ‘All students are in the classroom.’
- (30) *Zhuozi shang fang zhe wo de shu.* (Possessive DP)
 desk loc put dur 1sg poss book
 ‘There are my book/books on the desk.’
- (31) *Menkou zhan zhe yi ge ren.* (Numeral-classifier DP)
 doorway stand dur one CL person
 ‘There is one person standing in the doorway.’
- (32) *Jiaoshi li zuo zhe henduo xuesheng.* (Quantitative DP)
 classroom loc sit dur many student
 ‘There are many students sitting in the classroom.’

The sentences in (26-29) show that the Proper Noun *Mary*, the pronoun *tamen* ‘them’, the demonstrative DP *na san zhi niao* ‘those three birds’ and the DP with a universal quantifier *suoyou de xuesheng* ‘all the students’ may not occur in the Existential construction, respectively. The sentences in (31-32) show that it is perfectly grammatical that the numeral-classifier DP *yi ge ren* ‘one person’ and the quantitative DP *henduo xuesheng* ‘many students’ appear in the Existential construction. This indicates that the former are definite, whereas the latter are indefinite. This conclusion complies with Cheng & Sybesma’s (1999) observation that DPs modified by a numeral-classifier phrase are indefinite in Mandarin.

Interestingly, example (30) shows that the possessive DP *wo de shu* ‘my book’ can occur in the Existential construction, which suggests that the possessive DP is indefinite. Recall that a possessive DP is allowed to be deleted in the putative VPE construction (cf. (22)). This seems to be a counterexample to the claim that only definite objects can be deleted in the putative VPE construction. Therefore, additional test needs to be conducted in order to find out whether this claim holds true.

In Mandarin, besides the Existential construction, the *ba*-construction is also sensitive to definiteness. Mandarin is an S-V-O language, however, in the *ba*-construction, the preposition *ba*⁹ preposes the object

⁹ *Ba* is considered to be a co-verb by some linguists (e.g. Ziegeler 2000). However, whether it is a preposition or a co-verb is not

into a preverbal position. Consequently, the sentence becomes S-O-V (Lü 1955, Zhu 1957, Chao 1968, Hopper & Thompson 1980, Shao 1985, Li & Thompson 1989, Tice & Lance 1990, Wei 1997 and Sybesma 1992, 2013 among others), as illustrated in the following example.

- (33) a. Wo du-wan zhe ben shu le.
 1sg read-finish dem CL book pfv
 ‘I read and finished this book.’
 b. Wo ba [zhe ben shu]_i du-wan le *t_i*.
 1sg BA dem CL book read-finish pfv

Comparing with (33a), the object in (33b) is preposed into the position preceding the verb. Here it shows that the S-V-O sentence and *ba*-construction are interchangeable. However, while some S-V-O sentences can be transformed to the *ba*-construction, others cannot as there are many constraints on the verb and the object in *ba*-constructions. I leave out the constraints on the verb since it is not related to the issue that is of concern, but just focus on the object. The object in the *ba*-construction must be definite (e.g. Lü 1948, Chao 1968 and Hashimoto et al. 1985). It would be ungrammatical if an indefinite DP occurred as the object of *ba*. As a result, the *ba*-construction can serve as a diagnostic for definiteness. DPs that can occur as the object in the *ba*-construction are definite and the ones that are not allowed to appear in the construction are indefinite. Obverse the data given in (34-39) below.

- (34) Xuexiao ba John kaichu le. (Proper Noun)
 school BA John expel pfv
 ‘The school expelled John.’
 (35) Mary ba tamen pian le. (Pronoun)
 Mary BA them deceive pfv
 ‘Mary deceived them’
 (36) John ba na ge pingguo chi le. (Demonstrative DP)
 John BA det CL apple eat pfv
 ‘John ate that apple.’
 (37) Li laoshi ba suoyou de xuesheng dou piping le. (DP with a universal quantifier)
 Li teacher BA all gen student both/all criticize pfv
 ‘Teacher Li criticized all the students.’

related to the issue that is of concern here. I adopt the preposition assumption for convenience.

- (38) John *ba wo de shu reng le.* (Possessive DP)
 John BA 1sg poss book throw pfv
 ‘John threw my book/books away.’
- (39) a. *John *ba liang ge pingguo chi le.* (Numeral-classifier DP)
 John BA two CL apple eat pfv
 Intended: ‘John ate two apples.’
- b. John *ba liang ge pingguo dou chi le.* (Universal reading)
 John BA two CL apple both/all eat pfv
 ‘John ate both of the apples.’

The above examples show that while the Proper Noun (cf. (34)), pronoun (cf. (35)), demonstrative DP (cf. (36)), DP with a universal quantifier (cf. (37)) and possessive DP (cf. (38)) can occur in the *ba*-construction, the numeral-classifier DP (cf. (39a)) is not allowed to appear in the construction unless the universal quantifier *dou* ‘both/all’ occurs in the sentence. The universal quantifier specifies the domain and gives a numeral-classifier DP a specific interpretation (cf. (39b)).

This confirms the conclusion reached above that Proper Nouns, pronouns, demonstrative DPs and DPs with a universal quantifier are definite, whereas numeral-classifier DPs are indefinite. Crucially, the possessive DP can occur in the *ba*-construction. This suggests that possessive DPs can be either definite or indefinite in Mandarin. Therefore, the deletion of possessive DPs in the putative VPE does not contradict the conclusion that definite objects can be deleted, whereas indefinite objects cannot. More in particular, possessive DPs have a definite interpretation when they are deleted in the putative VPE. For example, the deleted object in (22), which is repeated in (40) for convenience, can either refer to John’s students (the strict reading) or Peter’s students (the sloppy reading), but not someone who is introduced to the discourse for the first time.

- (40) John₁ *xihuan ta₁ de xuesheng*, Peter₂ *ye xihuan [~~ta de~~ xuesheng].*
 John like 3sg poss student Peter also like 3sg poss student
 ‘John₁ likes his₁ students and Peter₂ does too.’
- (i) Strict reading: Peter₂ likes John₁’s students
 (ii) Sloppy reading: Peter₂ like Peter₂’s students
 (iii) *A third reading: Peter₂ likes someone else.

In (40), the elided site can refer to John₁'s students (i.e. the strict reading) or to Peter₂'s students (i.e. the sloppy reading). Both readings are definite and referential in this context.

The Existential construction and *ba*-construction test lead us to conclude that Proper Nouns, pronouns, demonstrative DPs and DPs with a universal quantifier are definite, whereas numeral-classifier phrases DPs are indefinite. With regard to possessive DPs, they can be either definite or indefinite. On account of the fact that the former can be deleted in the putative VPE and the latter cannot, we can conclude that while definite DPs can be deleted in the putative VPE construction, indefinite DPs cannot.

However, a bare DP object can be deleted in the putative VPE construction even when it has an indefinite reading. This seems to challenge the conclusion that indefinite objects may not be deleted in Mandarin. Consider the following examples.

(41) John xihuan *pingguo*, Mary ye xihuan [~~*pingguo*~~]. (Generic)

John like apple Mary also like apple

‘John likes apples and Mary does too.’

(42) John mai *che* le, Mary ye mai [~~*che*~~] le. (Indefinite)

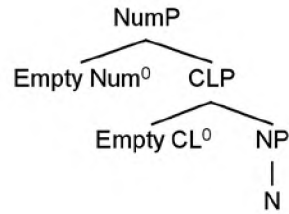
John buy car prf Mary also buy car prf

‘John bought a car and Mary did too.’

The bare DP object in (41) has a generic reading, which is often considered to be definite (e.g. Longobardi 1994, Krifka et al. 1995 and Cheng & Sybesma 1999). As a result, it complies with the observation that definite objects can be deleted. However, in (42), the bare DP object has an indefinite interpretation and it is also deleted, which contradicts the conclusion that indefinite objects cannot be deleted, at least on the surface. Here questions arise: is the conclusion reached above correct? If it is correct, why are bare DP objects with an indefinite reading allowed to be deleted?

In order to answer these two questions, let us first examine the internal structure of bare DPs. Longobardi (1994) proposes that bare DPs in Germanic and Romance languages are not really bare; instead, they are embedded in a fully-fledged DP structure with a non-overt D head. He argues that when N remains *in situ*, leaving D position empty, the DP has an indefinite reading. When N-to-D movement occurs, the DP receives a generic or Proper Name interpretation. In the spirit of Longobardi (1994), Cheng & Sybesma (1999) propose that in Mandarin, bare DPs with an indefinite reading are NumP with an empty Num⁰ and an empty CL⁰, as illustrated in (43).

(43) The structure of indefinite bare DPs



(Adapted from Cheng & Sybesma 1999: (39))

The structure in (43) illustrates that bare DPs with an indefinite reading have a fully-fledged NumP and CLP in the structural term, but they are empty.

In addition, in Mandarin, regardless of the definiteness of an object, the NP complement of the object DP can be deleted, leaving NumP or DetP overt, as illustrated in the examples below.

(44) John xie guo liang ben shu, Mary ye xie guo [_{NumP} *liang* [_{CLP} *ben* [_{NP} ~~*shu*~~]]].
 John write exp two CL book Mary also write exp two CL book
 ‘John wrote two books and Mary also wrote two.’ [Indefinite DP object]

(45) John du guo na ben shu, Mary ye du guo [_{DetP} *na* [_{CLP} *ben* [_{NP} ~~*shu*~~]]].
 John read exp dem CL book Mary also read exp dem CL book
 ‘John read that book and Mary also read that book.’ [Definite DP object]

In these two sentences, the NP complement *shu* ‘book’ is deleted, leaving the rest of the DP structure overt.

Now let us return to the deletion of indefinite bare DPs. In sentences with an indefinite bare DP object, the NP complement of the bare DP can be deleted, leaving Num⁰ and CL⁰ *in situ* in the same way that the NP complement of an overt numeral-classifier phrase DP is deleted (cf. (44)). As the structure (43) shows, the Num⁰ and CL⁰ are empty; hence, on the surface, no element in the object position is left. The deletion of the bare DP object in (42) is illustrated in (46).

(46) John mai [D⁰ [Num⁰ [CL⁰ [che]]] le, Mary ye mai [D⁰ [Num⁰ [CL⁰ [~~che~~]]] le.
 John buy [D⁰ [Num⁰ [CL⁰ [car]]] prf Mary also buy [D⁰ [Num⁰ [CL⁰ [car]]] prf
 ‘John bought a car and Mary did too.’

In (46), the NP complement *che* ‘car’ is deleted, leaving the empty Num⁰ and CL⁰ *in situ*. That is to say, in this case, it is not the whole object, but the NP complement of the bare DP that is deleted. Therefore, the deletion of indefinite bare DPs does not contradict the claim that indefinite objects cannot be deleted in Mandarin.

To summarise, this section shows that in the putative VPE construction, while definite objects - including Proper Nouns, pronouns, demonstrative DPs, DPs with a universal quantifier and possessive DPs - can be deleted, indefinite objects like numeral-classifier phrase DPs must remain overt. This restriction on objects challenges the V-stranding VPE assumption. If the putative VPE construction is V-stranding VPE, all objects should be deleted unless they move out of *vP* before VPE takes place. Consequently, the unavailability of the indefinite objects deletion leads us to conclude that indefinite objects somehow move out of *vP* before VPE takes place or that *vP* is not deleted. Accordingly, the next section will discuss whether indefinite objects move out of *vP* in Mandarin.

3.1.2.2 Remaining of indefinite objects in *vP*

This section focuses on the issue of whether indefinite objects move out of *vP* before VPE takes place if there is VPE in Mandarin and therefore survive ellipsis. The interaction between definiteness and the syntactic position of objects has received a great deal of attention theoretically and descriptively. Heim (1982) claims that the arguments in the Existential Closure (i.e. *vP*) are subject to a Novelty Condition, which means that they are new to the discourse. The arguments referring to old information must move out of the scope of Existential Closure at LF (i.e. Logical Form). Following Heim (1982), Diesing (1992) proposes the Mapping Hypothesis, as shown in (47).

(47) Mapping Hypothesis

- (a) VP¹⁰ maps into the Nuclear Scope (the domain of Existential Closure);
- (b) IP maps into the Restriction of an operator. (Cited from Diesing & Jelinek 1995: (1))

Mapping Hypothesis states that arguments with a non-specific/existential interpretation are located in *vP* and the ones with a specific/referential interpretation are located in the IP level (Diesing 1992 and Kratzer 1995).

¹⁰ It should note that the VP in Heim’s (1982) and Diesing’s (1995) term is marked as *vP* in this thesis.

Mapping Hypothesis has been attested in many languages (e.g. Diesing & Jelinek 1995 for German and Egyptian Arabic; Diesing 1997 for Yiddish and Scandinavian and Tsai 1994 for Mandarin). In German, for instance, Diesing & Jelinek (1995) demonstrate that when an indefinite object DP occurs in vP , it receives a non-specific existential interpretation (cf. (48)). The existential interpretation is no longer available when the indefinite object DP occurs in a vP -external position. Instead, it receives a specific or referential reading (cf. (49)). Definite DPs typically appear outside of vP (cf. (50)). In particular, pronouns which are definite inherently must move out of vP . It would be ungrammatical if a pronoun was in vP (cf. (51)).

(48) a. ...weil Elly immer *Lieder* singt.

since Elly always songs sings

‘Since Elly is always singing songs.’

b. ALWAYS_t [time (t)] \exists_x song (x) \wedge sings (Elly, x, t) [German, Diesing & Jelinek 1995: (5)]

(49) a. ...weil Elly *Lieder* immer singt.

Since Elly songs always sings

‘Since, if it’s a song, Elly will sing it.’

b. ALWAYS_x [song (x)] sings (ELLY, x) [German, Diesing & Jelinek 1995: (6)]

(50) a. *?...weil ich selten *die Katze* streichle.

Since I seldom the cat pet

b. ... weil ich *die Katze* selten streichle.

Since I the cat seldom pet

‘Since I seldom pet the cat.’

[German, Diesing & Jelinek 1995: (7)]

(51) a. *... weil ich selten *sie* streichle.

Since I seldom her pet.

b. ...weil ich *sie* selten steichle.

Since I her seldom pet

‘Since I seldom pet her.’

[German, Diesing & Jelinek 1995: (8)]

In (48), the object *Lieder* ‘songs’ remains in vP and it thus receives an existential reading. In (49), it precedes the aspectual adverbial *immer* ‘always’, which indicates that it is located out of vP . As a result, it has a quantificational/specific reading. In (50a), the definite object DP *die Katze* ‘the cat’ is in vP and the sentence sounds awkward in neutral contexts. The definite object DP is normally out of vP as shown in (50b). In (51), the pronoun object must be located outside of vP (51b). The sentence (51a) is ungrammatical as the pronoun object is in vP .

In Yiddish, Diesing (1997) claims that while indefinite objects appear in the postverbal position, definite or specific objects must move to a preverbal position. A definite object can occur in the postverbal position only when it has a contrastive interpretation. Pronominal objects are prohibited from the postverbal position. Consider the following examples.

- (52) a. Maks hot geleyent *a bukh*. (V-O)
 Max has read a book
 ‘Max has read a book.’
- b. Maks hot *dos bukh* geleyent. (O-V)
 Max has the book read
 ‘Max has read the book.’ [Yiddish, Diesing 1997: (17)]
- (53) ^MMaks hot geleyent *dos bukh*.
 Max has read the book
 ‘Max has read the BOOK (e.g. not the newspaper).’ [Yiddish, Diesing 1997: (46)]
- (54) a. *Maks hot gcent *undz*.
 Max has known us
- b. Maks hot *undz* gcent.
 Max has us known
 ‘Max knew us.’ [Yiddish, Diesing 1997: (47)]

(52) shows that while the indefinite object *a bukh* ‘a book’ follows the verb (52a), the definite object *dos bukh* ‘the book’ precedes the verb (52b). In contrast, in (53), the definite object remains in the postverbal position and it thus receives a focused reading. In (54), the pronoun can only occur in the preverbal position (54b). The sentence becomes ungrammatical when it appears in the postverbal position (54a).

Diesing (1997) further argues that the object shifting in Scandinavian shows similar properties to object scrambling in German and Yiddish. For instance, in Icelandic, definite or specific objects are allowed to move out of vP, whereas indefinite objects must remain in vP.

Based on the differences of the object leftward movement, Diesing (1997) proposes that while in languages like German and Yiddish, definite objects, pronominal objects in particular, move out of vP in the overt syntax, in languages like English the reordering of the object is delayed until LF and definite objects thus remain in the postverbal position at PF. In line with Heim (1982) and Diesing (1992, 1997) among others,

in what follows, I discuss the Existential closure in Mandarin and show that indefinite objects must remain in the Existential Closure, i.e. vP .

3.1.2.2.1 Unavailability of indefinite objects preposing

Like languages mentioned above, in Mandarin, the leftward movement of objects is sensitive to definiteness. It has been shown in Section 3.1.2.1 that in the *ba*-construction, the preverbal object must be definite. Indefinite objects are not allowed to occur in the preverbal position (cf. (34-39)). This means that definite objects can move out of vP , whereas indefinite objects cannot. Apart from the *ba*-construction, without the preposition *ba*, the object can also move to a preverbal position, which is known as the Object Preposing construction (see Xu & Langendoen 1985, Lee 1986, Tang 1990, Qu 1994, Ernst & Wang 1995, Shyu 1995, 2001, Tsai 1994, 2000, Zhang 1997 and Paul 2002). In the Object Preposing construction, the object lands in a position preceding the verb, the modal and/or the negative marker, as illustrated in the examples below.

(55) John *fan_i* chi *t_i* le, *jiu_j* ye he *t_j* le.

John food eat prf wine also drink prf

‘John ate the food and drank the wine.’

(56) a. John *na ben shu_i* qunian xie-wan *t_i* de.

John dem CL book last year write-finish SFP

‘John finished writing that book last year.’

b. *John qunian *na ben shu_i* xie-wan *t_i* de.

John last year dem CL book write-finish SFP

(57) a. Wo *huasheng_i* neng chi *t_i*.

Isg peanut can eat

‘I can eat peanuts.’

(Ernst & Wang 1995: (21b))

b. *Wo neng *huasheng_i* chi *t_i*.

Isg can peanut eat

(58) a. John *Zhongguo_i* mei qu guo *t_i*.

John China neg go exp

‘John has not been to China.’

b. *John mei *Zhongguo_i* qu guo *t_i*.

John neg China go exp

In (55), the proposed objects *fan* ‘food’ and *jiu* ‘wine’ precede the verb. In (56), the preposed object *na ben shu* ‘that book’ must occur before the temporal adverbial *qunian* ‘last year’ (56a). The sentence becomes ungrammatical if it appears after the temporal adverbial (56b). Sentences in (57) and (58) show that the preposed object must precede the modal and the negative, respectively. This clearly shows that the preposed object moves out of vP.

Like the preverbal object in the *ba*-construction, the preposed object must be definite. Consider the example (55-58) above. In (55), the bare DP *fan* ‘food’ and *jiu* ‘wine’ must refer to some specific food and wine. The demonstrative DP *na ben shu* ‘that book’ in (56) and Proper Noun *Zhongguo* ‘China’ in (58) are definite inherently. In (57), the preposed object *huasheng* ‘peanut’ has a generic interpretation which is considered to be definite. The sentence would be ungrammatical if an indefinite object appeared in the preverbal position unless it had a contrastively focused reading, as illustrated below.

(59) a. *Wo *liang ben shu*_i du-wan *t_i* le.

1sg two CL book read-finish prf

Intended: ‘I have finished reading two books.’

b. Wo *liang ben shu*_i dou du-wan *t_i* le.

1sg two CL book both read-finish prf

‘I have finished reading both books.’

(60) a. *Wo yi pian lunwen keyi yingfu.

1sg one CL article can handle

Intended: ‘I can handle one article.’

b. Wo yi pian lunwen keyi yingfu, liang pian jiu bu xing le.

1sg one CL article can handle two CL then neg possible prf

‘I can handle ONE article, but two is not possible.’ (Tsai 1994: Chapter3 (32))

In (59a), the numeral-classifier DP *liang ben shu* ‘two books’ appears in the preverbal position and the sentence is thus ungrammatical. In (59b), the quantifier *dou* occurs giving the object a specific interpretation. Consequently, the sentence is grammatical. Similarly, the sentence in (60a) is unacceptable since the indefinite object occurs in the preverbal position. In (60b), the preposed object receives a contrastively focused reading and the sentence thus becomes grammatical.

The data above suggests that like German and Yiddish, in Mandarin, definite objects can move to a preverbal position, whereas indefinite objects cannot. However, before we reach the conclusion, we need

to deal with another question. As presented above, in German and Yiddish, pronominal objects must move out of vP. However, in Mandarin, pronominal objects are not allowed to move to the preverbal position in the Object Preposing constructions. In addition, definite DPs which refer to animate beings cannot appear in the preverbal position either (e.g. Hou 1979, Lu 1993 and Qu 1994), as illustrated in (61-62).

- (61) a. John piping le *Mary*.
 John criticize pfv *Mary*
 ‘John criticized *Mary*.’
 b. *John *Mary_i* piping le *t_i*.
 John *Mary* criticize pfv
 Intended: ‘John criticized *Mary*.’
- (62) a. John jiao guo *tamen*.
 John teach exp 3pl
 ‘John taught them before.’
 b. *John *tamen_i* jiao guo *t_i*.
 John 3pl teach exp
 Intended: ‘John taught them before.’

In (61), the Proper Noun *Mary* is definite inherently. However, it cannot appear in the preverbal position (61b). Similarly, the pronoun object in (62) is not allowed to move to the preverbal position either (62b).

The question arises: whether the ungrammaticality of (61b) and (62b) counters our observation that definite objects can move out of vP and indefinite objects cannot. In what follows, I am going to demonstrate that the unavailability of the preposing of pronouns and definite objects referring to animate beings is not attributed to their definiteness, but to other independent reasons. Qu (1994) proposes a generalisation of the constraints on preposed objects (also see Lu 1993), as shown in (63).

(63) The constraints on preposed objects

- (a) If NP_{subj} and NP_{obj} cannot switch theta roles, NP_{obj} can be either fronted to the S(entence)-initial position or shifted to a position after the subject, provided the definiteness requirement of the NP is met.
- (b) If NP_{subj} and NP_{obj} can switch theta roles, then NP_{obj} can only be fronted to the S(entence)-initial position, not shifted. (Qu 1994: Chapter3 (10))

Following Qu (1994), if a subject DP and an object DP can switch their θ -role, when the object DP moves to the preverbal position, the object DP would take the θ -role that was assigned to the subject and the subject would consequently become a topicalized object DP. Taking (61b) as an example, although this sentence is not able to express the intended meaning, it would be grammatical if it was interpreted as meaning that *John, Mary criticized him*. The sentence is completely different from (61a) semantically and syntactically. This shows that pronominal and animate definite DPs are not allowed to move to the preverbal position in the Object Preposing constructions owing to the θ -role assignment, not to definiteness. In other words, the ungrammaticality of (61b) and (62b) is not a counterargument for the conclusion that definite objects can move out of ν P. In fact, in the *ba*-construction, pronouns and animate definite DPs can move to the preverbal position as the preposition *ba* blocks the θ -role assigning to the preposed object. This has been shown in (34-35). For convenience, the examples below are provided.

(64) John *ba* *Mary_i* *piping* *le* *t_i*.

John BA Mary criticize pfv

(65) John *ba* *tamen* *da* *le* *t_i*

John BA them beat pfv

‘John beat them.’

In comparison with (61b) and (62b), these two sentences are perfectly grammatical. This indicates that pronouns and animate definite objects are allowed to move out of ν P.

3.1.2.2.2 Indefiniteness of bare DPs in the ν P domain

Mandarin does not have definite or indefinite particle; hence, a bare DP is ambiguous in terms of (in)definiteness. However, while bare DPs in the preverbal object position receive a definite or specific interpretation, the ones in the postverbal object position typically have an indefinite reading. In this respect, Mandarin is similar to German. The definiteness of bare DPs is determined by the Existential Closure. Consider the examples shown below.

(66) John *chi fan* *le*, *ye* *he* *jiu* *le*.

John eat food prf also drink wine prf

‘John ate food and also drank wine.’

(67) a. *Ta* *dou* *chi guo* *shenme?*

3sg both/all eat exp what

‘What did he eat?’

(Qu 1995: Chapter4 (22))

- b. Ta *shenme*_i dou chi guo *t_i*.
 3sg what both/all eat exp
 ‘He ate anything.’ (Qu 1995: Chapter4 (21))

In (66), *fan* ‘food’ and *jiu* ‘wine’ appear in the postverbal position. Consequently, they receive an indefinite interpretation. Recall that in (55) where they are preposed to the preverbal position, they receive a definite interpretation. In Mandarin, *wh*-phrases are indefinite inherently (Cheng 1991, 1992, 1993). In (67a), *shenme* ‘what’ appears in the postverbal object position and it receives an interrogative reading, which is indefinite. In contrast, in (67b) it occurs in the preverbal position. As a result, it can only have a universal quantificational reading.

3.1.2.2.3 Unavailability of indefinite objects topicalizing

Cross-linguistically, the topic is definite and specific. In Mandarin, only definite objects can move to the sentence-initial position for topicalization (Tsai 1994). It would be ungrammatical to topicalize an indefinite object. Consider the examples below.

- (68) *Na liang zhong yuyan*_i, John hui shuo *t_i*.
 dem two CL language, John can speak
 ‘Those two languages, John can speak.’
 (69) **Liang zhong yuyan*_i, John hui shuo *t_i*.
 two CL language John can speak
 Lit.: ‘Two languages, John can speak.’

In (68), the definite object is fronted to the sentence-initial position for topicalization and the sentence is perfectly grammatical. In contrast, (69) shows that it is ungrammatical to topicalize an indefinite object.

3.1.2.2.4 (In)definiteness of the subject and object

It is widely accepted that in Mandarin, the subject is typically definite and the object is indefinite (Li & Thompson 1981, Lee 1986, Cheng 1991 and Tsai 1994 among others). A bare DP in the subject position normally receives a definite or specific interpretation, whereas a bare DP in the object position has an indefinite or non-specific interpretation. Moreover, typical indefinite DPs such as numeral-classifier DPs

are not allowed to occur in the subject position unless they receive a definite/specific reading, as illustrated below.

(70) a. *Xuesheng lai le.*

student come prf

‘The student(s) has/have come.’

b. *John da guo xuesheng.*

John beat exp student

‘John beat a student/students before.’

(71) a. **San ge xuesheng lai le.*

three CL student come prf

Intended: ‘There are three students who came.’

b. *Lai le san ge xuesheng.*

come prf three CL student

‘There are three students who came.’

c. *San ge xuesheng dou lai le.*

three CL student all come prf

‘The three students all came.’

(70) shows that *xuesheng* ‘a student/students’ receives a definite/specific reading in the subject position (70a), however, it is indefinite in the object position (70b). In (71a), *san ge xuesheng* ‘three students’ which is indefinite inherently, occupies the subject position and this sentence is thus ungrammatical. Instead, it must appear in the postverbal object position as shown in (71b). In (71c), the object falls in the scope of *dou* ‘both/all’ and thus receives a quantificational/specific interpretation. As a result, the sentence is grammatical.

Following the Internal Subject Hypothesis (Kuroda 1988 and Koopman & Sportiche 1990 among others), which states that the subject moves to [Spec, TP] from [Spec, ν P], the subject is outside of ν P. As a result, it receives a definite interpretation. The object remains inside ν P. Consequently, it receives an indefinite reading.

To sum up, in Mandarin, (i) while definite objects can move to the preverbal position in the *ba*-constructions and Object Preposing constructions, indefinite objects are not allowed to undergo such movement. (ii) A bare DP object in ν P typically receives an indefinite reading. (iii) Definite objects can be fronted to the

sentence-initial position for topicalization, whereas indefinite objects cannot. (iv) The subject is typically definite and the postverbal object is indefinite in Mandarin. These four arguments lead us to conclude that Mandarin is subject to the Existential Closure. However, unlike German and Yiddish, in Mandarin, definite objects can, but need not necessarily move out of vP at PF, as illustrated in the examples below.

(72) a. John biaoyang le na ge xuesheng.

John praise pfv dem CL student

‘John praised that student.’

b. John ba na ge xuesheng_i biaoyang le t_i.

John BA dem CL student praise pfv

‘John praised that student.’

(73) a. John mei wancheng Li laoshi buzhi de zuoye.

John neg finish Li teacher assign rel homework

‘John did not finish the homework that Teacher Li assigned (to him).’

b. John Li laoshi buzhi de zuoye_i mei wancheng t_i.

John Li teacher assign comp homework neg finish

‘John did not finish the homework that Teacher Li assigned (to him).’

(72) and (73) illustrate that definite objects can either remain in vP or move to the preverbal position on the surface.

In conclusion, this section shows that in Mandarin, while definite objects can be deleted in the putative VPE construction, indefinite objects cannot. However, Mandarin is subject to the Existential Closure. Definite objects can move out of vP, whereas indefinite objects must remain inside vP. Therefore, the unavailability of indefinite objects deletion indicates that vP cannot be deleted in Mandarin. If it was deleted, the deletion of indefinite objects should be compulsory as they remain inside vP.

3.1.3 Unavailability of vP-internal adverbials deletion

In English-type VPE and V-stranding VPE, vP-adverbials such as manner adverbials must be deleted. Importantly, the elided adverbials are recovered semantically. However, in Mandarin, manner adverbials may not be deleted in the putative VPE construction. If deleted, they cannot be recovered semantically. Xu (2003) considers this to be a crucial counterargument for the V-stranding VPE assumption. The contrast between English VPE and Mandarin putative VPE is shown below.

- (74) a. John speaks Mandarin fluently and Mary does [~~speaks Mandarin fluently~~] too.
 b. *John speaks Mandarin fluently and Mary does [~~speaks Mandarin~~] fluently too.

- (75) a. *John *liulide* huida le laoshi de wenti,
 John fluently answer pfv teacher poss question
 Mary ye [~~liulide~~] huida le [~~laoshi de wenti~~].
 Mary also fluently answer pfv teacher poss question
 Intended: ‘John answered the teacher’s questions fluently and Mary did too.’
 b. John *liulide* huida le laoshi de wenti,
 John fluently answer pfv teacher poss question
 Mary ye *liulide* huida le [~~laoshi de wenti~~].
 Mary also fluently answer pfv teacher poss question
 ‘John answered the teacher’s questions fluently and Mary did too.’

In (74a), the manner adverbial *fluently* is deleted in the target clause and it is recoverable semantically. The sentence becomes ungrammatical if it remains overt when VPE takes place (74b). In contrast, (75) shows that in Mandarin, *liulide* ‘fluently’ must remain overt in order to express the intended meaning in the target clause (75b). The sentence is not licit to express the intended meaning when the manner adverbial is elided (75a). In (75a), the second conjunct can only be interpreted as meaning that *Mary answered the teachers’ questions*. Under this interpretation, the adverbial *liulide* ‘fluently’ is not reconstructed. In other words, no adverbial deletion is involved.

Now let us look at the syntactic position of manner adverbials in Mandarin to confirm Xu’s (2003) argument. Although the distribution of adverbials is different from one language to another, manner adverbials are considered to occur at the vP level cross-linguistically (Cinque 1999). In Mandarin, Tang (2001) claims that manner adverbials are generated under Predicate Phrase, which is the vP in this thesis (also see Li 2002 and Ai 2006). Manner adverbials in Mandarin are rather inflexible in the linear order. They occupy a position between the verb and a modal/negation marker, as illustrated in the examples below.

- (76) a. Ta *neng liulide* shuo Hanyu.
 3sg can fluently speak Mandarin
 ‘S/he can speak Mandarin fluently.’
 b. *Ta *liulide neng* shuo Hanyu.
 3sg fluently can speak Mandarin

- (77) a. John *mei zixi* jiancha mei yi ge jiaoluo.
 John neg carefully check every one CL corner
 ‘John did not check every corner carefully.’
 b. *John *zixi mei* jiancha mei yi ge jiaoluo.
 John carefully neg check every one CL corner
- (78) a. Ta *xianran renzhen* fuxi gongke le.
 3sg obviously seriously review schoolwork prf
 ‘Obviously, s/he reviewed the schoolwork seriously.’
 b. *Ta *renzhen xianran* fuxi gongke le.
 3sg seriously obviously review schoolwork prf
- (79) a. **Liulide* ta neng shuo Hanyu.
 fluently 3sg can speak Mandarin
 Intended: ‘S/he can speak Mandarin fluently.’
 b. *Ta neng shuo Hanyu *liulide*.
 3sg can speak Mandarin fluently
 Intended: ‘S/he can speak Mandarin fluently.’

The above examples show that manner adverbials must precede the main verb, but follow the modal (cf. (76)), negative (cf. (77)) and sentential adverbial (cf. (78)). At the same time, it is prohibited from occupying the sentence-initial (cf. (79a)) and sentence-final position (cf. (79b)). This suggests that manner adverbials occur at the *vP* level. Providing this conclusion is on the right track, when VPE takes place, manner adverbials must be elided, which again contradicts the fact that manner adverbials cannot be deleted.

As mentioned in Section 2.3, based on the inability of manner adverbials deletion, Li (2002) and Ai (2006) argue that instead of little *vP*, it is the big *VP* that is deleted in Mandarin. However, their assumption is not tenable either. Except preverbal adverbials, Mandarin also has postverbal adverbials, which typically describe the duration or frequency of a situation. In the putative VPE construction, postverbal adverbials cannot be deleted either, as shown in the examples below.

- (80) a. John kan le yi ge xiaoshi dianying,
 John watch pfv one CL hour movie
 Mary ye kan le yi ge xiaoshi [~~dianying~~].
 Mary also watch pfv one CL hour movie
 ‘John watched a movie for one hour and Mary also watched a movie for one hour.’

b. *John kan le yi ge xiaoshi dianying,

John watch pfv one CL hour movie

Mary ye kan le [~~yi ge xiaoshi~~] [dianying].

Mary also watch pfv one CL hour movie

Intended: ‘John watched a movie for one hour and Mary also watched a movie for one hour.’

(81) a. John ma le na ge ren liang ci,

John scold pfv dem CL person two CL

Peter ye ma le [~~na ge ren~~] liang ci.

Peter also scold pfv dem CL person two CL

‘John scolded that person twice and Peter also scolded that person twice.’

b. *John ma le na ge ren liang ci,

John scold pfv dem CL person two CL

Peter ye ma le [~~na ge ren liang ci~~].

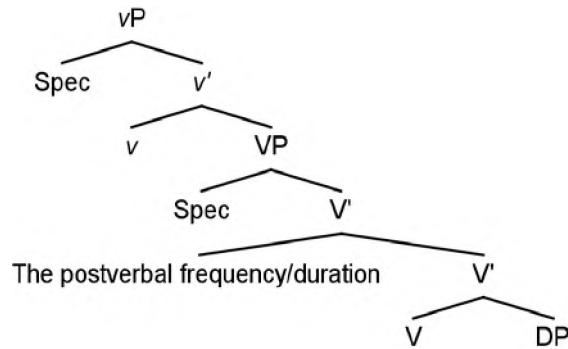
Peter also scold pfv dem CL person two CL

Intended: ‘John scolded that person twice and Peter also scolded that person twice.’

In (80), *yi ge xiaoshi* ‘one hour’ refers to the duration of the event in question. It must remain overt in the second conjunct to indicate the intended meaning that Mary also watched a movie for one hour (80a). In (80b), the postverbal adverbial is deleted in the second conjunct and this clause is not appropriate for expressing the intended meaning. It only means that Mary watched a movie. This shows that the adverbial is not reconstructed. Therefore, there is no deletion of the duration phrase involved. Likewise, in (81), *liang ci* ‘two times’ describes the frequency of the event in question and it is not allowed to be deleted either.

Huang et al. (2009) states that postverbal adverbials of frequency and duration are located at the big VP domain, as illustrated in (82) below.

(82) The syntactic position of postverbal adjuncts of frequency/duration



According to Li's (2002) and Ai's (2006) big VP ellipsis assumption, preverbal manner adverbials are adjoined to vP and they consequently escape ellipsis. However, their analysis cannot account for the unavailability of the postverbal adjuncts deletion. Based on the syntactic structure in (82), if the big VP was elided, the postverbal adjuncts of frequency/duration should be deleted compulsorily. This prediction contradicts the fact illustrated in (80-81). Therefore, the big VP ellipsis assumption is not plausible in Mandarin.

In summary, this section shows that neither preverbal manner adverbials nor postverbal adjuncts of duration/frequency are allowed to be deleted in the putative VPE construction. This indicates that neither the little vP nor the big VP can be deleted in Mandarin.

3.1.4 Unavailability of *de*-clauses deletion

In the resultative and descriptive structure, the descriptive and resultative complement introduced by the complementizer *de* is not allowed to be deleted in the putative VPE construction, as shown in the following examples.

(83) a. John chang *de hao-ting*, Mary ye chang *de hao-ting*.

John sing comp good-to-listen Mary also sing comp good-to-listen

‘John sings well and Mary also sings well.’

b. *John chang *de hao-ting*, Mary ye chang [~~*de hao-ting*~~].

John sing comp good-to-listen Mary also sing comp good-to-listen

Intended: ‘John sings well and Mary also sings well.’

- (84) a. John shuo *de* *kou-gan-she-zao*,
 John talk comp mouth-dry-tongue-dry
 Mary ye shuo *de* *kou-gan-she-zao*.
 Mary also talk comp mouth-dry-tongue-dry
 ‘John talked so much that he was thirsty and Mary also talked so much that she was thirsty.’
- b. *John shuo *de* *kou-gan-she-zao*, Mary ye shuo [~~*de—kou-gan-she-zao*~~].
 John talk comp mouth-dry-tongue-dry Mary also talk comp mouth-dry-tongue-dry
 Intended: ‘John talked so much that he was thirsty and Mary also talked so much that she was thirsty.’

In (83), in order to express the same meaning as the antecedent, the *de*-clause must remain overt in the second conjunct (83a). It is not appropriate for expressing the intended meaning when it is deleted (83b). Similarly, the *de*-clause in (84) refers to the result of the event and it cannot be deleted either.

The *de*-clause is considered to be a complement of the verb (Huang et al. 2009). There are two convincing arguments supporting this analysis. The first argument comes from the island effect. In Mandarin, while an adjunct is a syntactic island for movement, a complement is not (e.g. Huang 1982, Xu 1990 and Tsai 1994a b 1999). Huang et al. (2009) observes that a constituent can be extracted from the *de*-clause, based on which they conclude that the *de*-clause serves as a complement rather than an adjunct. Consider the examples below.

- (85) a. Ta qi *de* wo bu xiang xie *na feng xin* le.
 3sg annoy comp 1sg neg want write dem CL letter prf
 ‘S/he annoyed me so much that I didn’t want to write that letter.’
- b. *Na feng xin*_i, ta qi *de* wo [bu xiang xie *t_i* le].
 dem CL letter 3sg annoy comp 1sg neg want write prf
 ‘That letter_i, s/he annoyed me so much that I didn’t want to write it anymore.’
- c. [ta qi *de* wo [bu xiang xie *t_i*] *de na feng xin*_i
 3sg annoy comp 1sg neg want write rel dem CL letter
 yijing ji-chu qu le.
 already send-out go prf
 Lit.: ‘That letter_i which he annoyed me so much that I didn’t want to write *t_i* has been sent out.’

(Adapted from Huang et al. 2009: Chapter3 (19))

In (85b), *na feng xin* ‘that letter’ is fronted to the sentence-initial position for topicalization from the *de*-clause and in (85c) it is moved to the clause-initial position for relativization. This shows that extraction from the *de*-clause is allowed.

The other piece of evidence is that a verb can take no more than two objects. The objects land either in the specifier or the complement position of a verb. When a *de*-clause occurs, only one object is allowed to appear (Ting & Li 1997). To put it differently, the *de*-clause cannot occur in the Double Object constructions. Huang et al. (2009) argue that this constraint further suggests that the *de*-clause occupies the complement position, leaving one position for the object. Consider the following examples.

(86) a. *Wo gei *de* ta liwu dui-cheng le shan.

Isg give comp 3sg gift pile-into pfv hill

Intended: ‘I gave him/her so many gifts that the gifts piled up like a hill.’

(Huang et al. 2009: Chapter3 (30b))

b. Liwu, wo gei *de* ta dui-cheng le shan.

Gift Isg give comp 3sg pile-into pfv hill

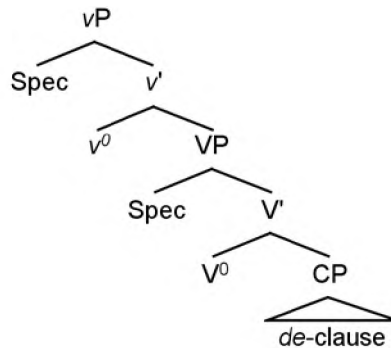
‘Gifts, I gave him/her so many that they piled up like a hill.’

In (86a), the direct and indirect object both occur inside *vP*. In this case, it is ungrammatical when the *de*-clause occurs. In (86b), the direct object *liwu* ‘gift’ appears in the sentence-initial position as a topic¹¹ and only the direct object *ta* ‘him/her’ remains inside *vP*. As a result, the *de*-clause is allowed to occur in the sentence.

These two pieces of evidence show that the *de*-clause serves as a complement of the verb. This is schematically represented in (87).

¹¹ Topicalization in Mandarin is argued that it can be formed by movement or by based-generation (see Tsai 1997 and Paul 2002 among others).

(87) The syntactic position of *de*-clauses



(Adapted from Huang et al. 2009: Chapter3 (20))

According to the syntactic structure (87), if vP/VP was indeed elided, the *de*-clause must be deleted. However, the *de*-clause cannot be deleted in the putative VPE construction, which further confirms the conclusion reached in preceding sections, i.e. neither the little vP nor the big VP can be deleted in Mandarin.

3.1.5 Ambiguity in Double Object constructions

Before investigating the deletion in Double Object constructions, let us look at the structure first. In Mandarin, without a dative preposition, the indirect object (IO) must precede the direct object (DO), i.e. V-IO-DO. When a dative preposition appears, the direct object precedes the indirect object, i.e. V-DO-P-IO (Xu & Peyraube 1997), as illustrated below.

(88) a. John song Mary yi ben shu.

John give Mary one CL book

‘John gave Mary a book.’

b. *John song yi ben shu Mary.

John give one CL book Mary

(89) John song yi ben shu *gei* Mary.

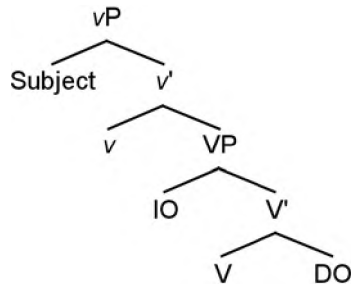
John give one CL book prep Mary

‘John gave Mary a book.’

In (88), no preposition occurs. The indirect object *Mary* must precede the direct object *yi ben shu* ‘a book’ (88a); otherwise, it is ungrammatical (88b). In (89), the dative preposition *gei* introduces the indirect object; hence, the indirect object follows the direct object.

Here I only focus on the construction without a dative preposition, i.e. V-IO-DO. According to Huang et al. (2009), the syntactic structure of the Double Object construction is illustrated below.

(90) The syntactic structure of Double Object constructions in Mandarin



(Adapted from Huang et al. 2009: Chapter3 (11))

According to (90), if vP/VP is elided, both the direct and the indirect object should be deleted compulsorily. The deleted objects must be recoverable semantically.

Firstly, in the V-IO-DO constructions, DO is typically indefinite. When the DO is definite, it normally moves to the preverbal position via the *ba*-construction. In addition, Zhu (1982) observes that personal pronouns are not allowed to occur as DO in Double Object constructions. In fact, not just personal pronouns, all pronouns are prohibited in the direct object position of the V-IO-DO construction. Consider the following examples.

- (91) a. John song Mary yi zhi gou.
 John give Mary one CL dog
 ‘John gave Mary a dog.’
- b. ?? John song Mary na zhi gou.
 John give Mary Dem CL dog
 ‘John gave Mary that dog.’
- c. John ba na zhi gou song Mary le.
 John BA dem CL dog give Mary prf
 ‘John gave Mary that dog.’
- d. *John song Mary ta.
 John give Mary it
 Intended: ‘John gave it to Mary.’

- e. John *ba ta* *song* Mary *le*.
 John BA it give Mary prf
 ‘John gave it to Mary.’

In (91a), the direct object *yi zhi gou* ‘a dog’ is indefinite. This sentence is perfectly grammatical. In (91b) the direct object *na zhi gou* ‘that dog’ is definite. The sentence is marginally acceptable, but the definite direct object normally occurs in the preverbal position as shown in (91c). The sentence (91d) is ungrammatical in that the pronoun *ta* ‘it’ occurs in the direct object position. Instead, the pronoun can only occur in the preverbal position (91d).

More interestingly, Zhu (1982) observes that in a sentence where IO can be a potential possessor of DO, if the DO is indefinite, it receives a θ -role independently. That is to say, the sentence is an instance of Double Object constructions. However, if the DO is definite, it serves as the possessee of the indirect object and cannot receive a θ -role anymore. The contrast is shown in the examples below.

- (92) a. John *tou le wo yi ben shu*.
 John steal pfv 1sg one CL book
 ‘John stole me a book.’

- b. John *tou le wo na ben shu*.
 John steal pfv 1sg dem CL book
 ‘John stole my book.’

- (93) a. John *zu le wo liang jian fang*.
 John rent pfv 2sg two CL room
 ‘John rented two rooms from me.’

- b. John *zu le wo na liang jian fang*.
 John rent pfv 2sg dem two CL room
 ‘John rented my two rooms.’

In (92a), the indefinite phrase *yi ben shu* ‘one book’ serves as the direct object, receiving a theta-role assigned by the verb. In (92b), the direct object is replaced by the demonstrative phrase *na ben shu* ‘that book’. Consequently, the demonstrative DP becomes the possessee. Likewise, while (93a) is an instance of Double Object constructions and the indefinite object receives a theta-role independently, the verb in (93b) only assigns one theta-role to the entire possessive object DP. This supports the claim that the direct object in Double Object constructions is typically indefinite. As a result, in the putative VPE, the direct object in

the V-IO-DO structure cannot be deleted due to the requirement of definiteness, i.e. indefinite object DPs cannot be deleted (Section 3.1.2).

In addition, when the direct and indirect object are both missing in the target clause, the sentence is ambiguous in terms of the referents of the missing objects, as illustrated in the following examples.

- (94) John song guo Mary san tiao hongse de weijin, Peter ye song guo [e].
John give exp Mary three CL red gen scarf Peter also give exp
'John gave Mary three red scarves and Peter also gave Mary/someone else a red scarf/three red scarves.'

In (94), no object appears in the second conjunct. The clause is ambiguous as it can be interpreted as meaning that *Peter gave someone else (not Mary) three red scarves* or that *Peter gave Mary a red scarf or red scarves (but not three)*. Here, it shows that when both objects are missing, they are not necessarily reconstructed. From this observation, it is difficult to tell whether the missing objects are attributed to V-stranding VPE, DP ellipsis or a Null Object construction since it is possible that these three constructions share the same form. In other words, the absence of the direct and indirect objects is a necessary but not sufficient condition for V-stranding VPE. Therefore, it does not conflict with the conclusion that the putative VPE construction is not V-stranding VPE in Mandarin.

3.1.6 Summary

This section clearly shows that neither *vP* nor *VP* can be deleted in Mandarin. In other word, the putative VPE construction is not genuine V-stranding VPE. First, the dependent verbs are not allowed to occur in the putative VPE construction. The interaction between the transitivity and θ -role assignment in Mandarin shows that verbs with a low transitivity can only assign a θ -role to an overt object, so the dependent verbs, which have a weak [+transitive] feature, must be followed by an overt object. However, if *vP/VP* was deleted as a whole, all types of verbs should be able to occur in VPE. Providing the verb moves to a higher position and thus escapes ellipsis, it should assign a θ -role to the object before movement and ellipsis. As a result, the dependent verbs should be able to occur in the V-stranding VPE construction. The unavailability of dependent verbs in the putative VPE construction suggests that this construction is not genuine VPE.

Second, on one hand while definite objects can be deleted, indefinite objects must remain overt in Mandarin; on the other hand, Mandarin is subject to the Existential Closure, which requires that indefinite objects remain inside *vP*. Consequently, the unavailability of indefinite objects deletion indicates that *vP* may not be deleted.

Third, neither preverbal manner adverbials nor postverbal adjuncts of duration/frequency are allowed to be deleted in the putative VPE construction. The former is located in the *vP* layer and the latter in VP. This further confirms that neither *vP* nor VP is deleted in Mandarin.

Fourth, the descriptive and resultative complement of a verb, which is introduced by the complementizer *de* cannot be deleted in the putative VPE construction either. Again, this argues against the big VP ellipsis assumption which has been advocated by Li (2002) and Ai (2006). The *de*-clause serves as a complement of the verb. If the big VP is deleted, the *de*-clause must be deleted as well. These arguments strongly indicate that the putative VPE construction is not genuine VPE, i.e. Mandarin does not have V-stranding VPE.

3.2 The elidable constituents in the *vP* domain in Mandarin

The preceding section demonstrates that neither *vP* nor VP can be deleted in the putative VPE construction in Mandarin. In this section, I list the constituents that can be deleted in the *vP* domain, including definite objects, the NP complement of an object, CP complements, infinitive complements and *vPs* that are governed by deontic modals.

3.2.1 Definite object DPs

As already demonstrated in Section 3.1.2, definite object DPs - Proper Nouns, pronouns, demonstrative DPs, possessive DPs and DPs with a universal quantifier - can be deleted in the *vP* domain (cf. (19-23)). For convenience, I repeat some of those examples below.

- (95) John xihuan *pingguo*, Mary ye xihuan [~~*pingguo*~~]. (Generic bare DP)
 John like apple Mary also like apple
 ‘John likes apples and Mary does too.’
- (96) John renshi *Mary*, Peter ye renshi [~~*Mary*~~]. (Proper Noun)
 John know Mary Peter also know Mary
 ‘John knows Mary and Peter does too.’

(97) John du-wan *na ben shu* le, Mary ye du-wan [~~*na ben shu*~~] le.
 John read-finish dem CL book prf Mary also read-finish dem CL book prf
 ‘John has finished reading that book and Mary has too.’ (Demonstrative DP)

The objects in (95-97) are all definite. All the sentences are felicitous when these objects are deleted in the second conjunct.

3.2.2 NP complements of objects

As shown in (44-45), the NP complement of an object DP, regardless of (in)definiteness of the object, can be deleted. I repeat those two sentences in (98-99).

(98) John xie guo liang ben shu, Mary ye xie guo [_{Num}*liang* [_{CLP}*ben* [_{NP}~~*shu*~~]]].
 John write exp two CL book Mary also write exp two CL book
 ‘John wrote two books before and Mary also wrote two.’

(99) John du guo *na ben shu*, Mary ye du guo [_{DetP}*na* [_{CLP}*ben* [_{NP}~~*shu*~~]]].
 John read exp dem CL book Mary also read exp dem CL book
 ‘John read that book before and Mary also read that book.’

While the object in (98) is indefinite, the one in (99) is definite. The NP complement is deleted in the target clause and both sentences are well-formed.

When the structural particle *de* appears between the attributive and NP, the NP can also be deleted, as illustrated in (100-101).

(100) John xihuan baise *de* che, Mary ye xihuan [baise *de* [~~*che*~~]].
 John like white *de* car Mary also like white *de* car
 ‘John likes white cars and Mary likes white cars too.’

(101) John xihuan *na* liang baise *de* che, Mary ye xihuan [*na* liang baise *de* [~~*che*~~]].
 John like dem CL white *de* car Mary also like dem CL white *de* car
 ‘John like that white car and Mary likes that white one too.’

In these two sentences, the NP/DP is deleted in the target clause, leaving the attributive and the structural particle *de* overt.

3.2.3 CP complements

In Mandarin, there is a subclass of verbs which can take a clause as a complement. In the putative VPE construction, the entire complement can be deleted in the target clause. Consider the following examples.

(102) John zhidao [_{CP} *Peter xihuan Lily*], Mary ye zhidao [_{CP} ~~*Peter xihuan Lily*~~].
John know Peter like Lily Mary also know Peter like Lily
'John knows that Peter likes Lily and Mary also knows (it)/does too.'

(103) John shuo guo [_{CP} *ta xihuan pingguo*], Mary ye shuo guo [_{CP} ~~*ta xihuan pingguo*~~].
John say exp 3sg like apple Mary also say exp 3sg like apple
'John said that he likes apples and Mary also said (it)/did too.'

In (102-103), the CP serves as the complement and it is deleted in the target clause. Both sentences are completely grammatical.

3.2.4 Infinitive complements

In Mandarin, when a *vP* serves as the complement of a verb, it can also be deleted. The *vP* complement is commonly considered as the infinitive form in literature (Huang 1984, 1987, 1989, 1992, Li 1985, 1990, Tang 1990 and Tang 2000), however, some linguists (e.g. Hu, Pan & Xu 2001) argue that it is not the infinitive as there is no morphological marking. For convenience, in this thesis, I assume that a *vP* complement is the infinitive. Infinitive complements can be deleted in Mandarin, as illustrated in the following examples.

(104) John dasuan guo *qu Zhongguo*, Mary ye dasuan guo [~~*qu Zhongguo*~~].
John plan exp go China Mary also plan exp go China
'John planned to go to China and Mary also planned to.'

(105) John zai changshi *zuo Zhongguo cai*, Mary ye zai changshi [~~*zuo Zhongguo cai*~~].
John prog try make Chinese food Mary also prog try make Chinese food
'John is trying to make Chinese food and Mary is also trying to.'

In these two sentences, the *vP* acts as the complement and it is deleted in the target clause. Both sentences are felicitous.

3.2.5 vP complements of deontic modals

Although Section 3.1 has shown that Mandarin does not have V-stranding VPE, like languages such as French (Busquets & Denis 2001, Dagnac 2010 and Authier 2011) and Dutch (Aelbrecht 2008, 2010), in Mandarin, vP can be deleted if it is governed by a deontic modal. In other words, Mandarin has the Modal Complement Ellipsis (MCE).

In Mandarin, when a vP is governed by a modal, the entire vP can be deleted. In this case, all constituents that fall in the vP domain - including the verb regardless of the type (cf. (106)), the object despite definiteness (cf. (107)), manner adverbials (cf. (108)) and descriptive/resultative complements introduced by *de*-clause (cf. (109)) - must be deleted. Consider the following examples.

- (106) John yuanyi *duanzheng* ta de xuexi taidu,
John be willing correct 3sg poss study attitude
Mary ye yuanyi [_{VP} ~~*duanzheng ta de xuexi taidu*~~].
Mary also be willing correct 3sg poss study attitude
'John is willing to correct his attitude of studying and Mary is also willing to.'
- (107) a. John neng chi *ershi ge jiaozi*, Bill ye neng [_{VP} ~~*chi ershi ge jiaozi*~~].
John can eat twenty CL dumping Bill also can eat twenty CL dumpling
'John can eat twenty dumplings and Bill can too.'
- b. John hui caifang *na ge laoshi*, Bill ye hui [_{VP} ~~*caifang na ge laoshi*~~].
John will interview dem CL teacher Bill also will interview dem CL teacher
'John will interview that teacher and Bill will too.'
- (108) a. John neng *yi kou qi* he wu ping piju,
John can one CL breath drink five CL beer
Bill ye neng [_{VP} ~~*yi kou qi he wu ping piju*~~].
Bill also can one CL breath drink five CL beer
'John can drink five bottles of beer in one breath and Bill can too.'
- b. *John neng *yi kou qi* he wu ping piju,
John can one CL breath drink five CL beer
Bill ye neng *yi kou qi* [~~*he wu ping piju*~~].
Bill also can one CL breath drink five CL beer]
- (109) a. John neng *chang de guanzhong lei-liu-man-mian*,
John can sing comp audience tear-flow-full-face

Bill ye neng [~~chang de~~ *guangzhong lei-liu-man-mian*].

Bill also can sing comp audience tear-flow-full-face

‘John can sing so affectingly that the audience will cry and Bill also can.’

b. *John neng *chang de guangzhong lei-liu-man-mian*,

John can sing comp audience tear-flow-full-face

Bill ye neng [~~chang~~] *de guangzhong lei-liu-man-mian*.

Bill also can sing comp audience tear-flow-full-face

Note that *vP* is governed by a modal in (106-109). In (106), the whole *vP* is deleted and the sentence is completely grammatical. Recall that the dependent verb *duanzheng* ‘to correct’ cannot occur in the putative VPE construction (cf. (6)). Here it indicates that the dependent verbs can occur in MCE. The object *ershi ge jiaozi* ‘twenty dumplings’ in (107a) is indefinite and *na ge laoshi* ‘that teacher’ in (107b) is definite. In both sentences, the object is deleted together with the *vP*. In (108), the manner adverbial *yikou qi* ‘at one breath’ must be deleted in the target clause and semantically it is recovered (108a). The sentence becomes ungrammatical when the manner adverbial remains overt (108b). In (109a), the complement introduced by *de*-clause is deleted together with the verb and the sentence is therefore grammatical. In (109b) the *de*-clause remains overt in the target clause while the verb is deleted. This sentence is completely ungrammatical. This illustrates that *de*-clause must be deleted in MCE. These examples show that when *vP* is governed by modals, regardless of the type of verbs and (in)definiteness of objects, the whole *vP* can be deleted.

Crucially, in Mandarin, while deontic modals can license their complement *vP* to be deleted, epistemic modal cannot. As shown in the literature review chapter (Section 2.1.1), MCE exists in many languages. In those languages, it has already been observed that not all modals can serve as a licenser for *vP* ellipsis. For instance, in French, while deontic modals can license their complement to be elided, epistemic modals cannot (see Busquets & Denis 2001, Dagnac 2010 and Authier 2011). Likewise, Dutch, as Aelbrecht (2008) points out, allows *vP* to be deleted only when *vP* is governed by deontic modals. In English, it is argued that the epistemic reading is not possible in VPE and only the deontic reading is allowed (e.g. Ross 1969, McDowell 1987, Drubig 2001 and Gergel 2007). Consider the examples below.

(110) a. La police *doit* arriver dans cinq minutes

The police must to-arrive in five minutes

et l'ambulance *doit* arriver dans cinq minutes aussi. (epistemic/deontic)
and the-ambulance must to-arrive in five minutes also

‘The police must arrive in five minutes and the ambulance must arrive in five minutes too.’

b. La police *doit* arriver dans cinq minutes et l'ambulance *doit* [e] aussi.

The police must to-arrive in five minutes and the-ambulance must also

‘The police must arrive in five minutes, and the ambulance must too.’ (*epistemic/deontic)

[French, Authier 2011: (26)]

(111) a. Q: Komt Thomas ook naar je lezing? - A: Hij *moet* [e].

comes Thomas also to your talk - he has to

‘Is Thomas coming to your talk?’ – ‘He has to.’ (Deontic)

b. Q: Zou Klaas nu op zijn bureau zijn? - A: *Hij *moet* wel. Hij werk altijd op zaterdag.

Would Klaas now on his office be - he must Part he work always on Saturday

Intended: ‘It is necessarily the case that he is in his office.’ (*Epistemic)

[Dutch, Aelbrecht 2008: Footnote 2 (iii)]

(112) John *must* wash his car every day and Peter *must* [e] too. (*epistemic/ deontic)

[English, Authier 2011: (27)]

(110a) shows that in French, when *vP* remains overt, the modal *doit* can have either an epistemic or a deontic reading, however, when *vP* is deleted, only the deontic reading is available (110b). (111) shows that in Dutch, the complement *vP* of the deontic modal can be deleted (111a), whereas the complement *vP* of the epistemic modal cannot (111b). In (112), the modal *must* can only have a deontic interpretation in the second conjunct.

In Mandarin, a number of linguists (e.g. Wu 2002, 2003, Su 2008 and Wei 2010) propose that while deontic modals can license *vP* ellipsis, epistemic modals may not act as the VPE licenser, as illustrated in (113).

(113) a. Zhangsan *hui/keyi* shuo Fayu, Lisi ye *hui/keyi* [e]. (Deontic)

Zhangsan can speak French Lisi also can

‘Zhangsan can speak French and Lisi can too.’

b. *Zhangsan *keneng/yinggai* qu le Faguo, Lisi ye *keneng/yinggai* [e]. (Epistemic)

Zhangsan could/should go pfv France Lisi also could/should

Intended: ‘Zhangsan could/should go to France and Lisi could/should too.’ (Su 2008: (34))

In (113a), the modals *hui* and *keyi* ‘can’ are deontic and the *vP* complement is thus allowed to be deleted. In (113b), the modals *keneng* and *yingai* are epistemic. Consequently, it is ungrammatical to delete the complement *vP*.

However, Ai (2006) claims that whether a modal can license VPE or not is attributed to the necessity, not to the epistemic feature. He argues that modals indicating necessity, no matter whether it is deontic or epistemic, cannot license VPE, whereas modals indicating possibility, either deontic or epistemic, can license VPE, as shown in (114-115).

(114) *Zhangsan *bixu/dei* qu Shanghai, Lisi ye *bixu/dei* [e].

Zhangsan ought to/must go Shanghai, Lisi also ought to/must

Intended: ‘Zhangsan ought to/must go to Shanghai and Lisi ought to/must too.’

(Ai 2006: Chapter 4 (16))

(115) Zhangsan *hui/gan/ken/neng* shuo Fuyu,

Zhangsan will/dare/be willing to/be able to talk-in French

Lisi ye *hui/gan/ken/neng* [e].

Lisi also will/dare/be willing to/be able to

‘Zhangsan will/dare/is willing to/is able to talk in French and Lisi will/dare/is willing to/is able to, too.’

(Ai 2006: Chapter 4 (19))

In (114), the modals *bixu* and *dei* have a deontic reading, however, the *vP* complement cannot be deleted. In (115), these deontic modals indicate possibility and the complement *vP* is allowed to be deleted.

Ai’s (2006) observation captures that certain deontic modals cannot license VPE (cf. (114)). However, his proposal faces some challenges. First, Ai’s dichotomy does not include all modals that can license VPE. For example, some modals which can license *vP* ellipsis indicate willingness/desire instead of possibility, as illustrated in (116).

(116) John *leyi/yuanyi* bangzhu bie ren, Mary ye *leyi/yuanyi* [e].

John be willing help other people Mary also be willing to

‘John is willing to help others and Mary is willing to, too.’

In (116), the modal *leyi/yuanyi* ‘be willing to’ expresses the willingness of the agent rather than possibility of the event in question.

Second, Ai's examples for epistemic modals that can license vP ellipsis is *keneng* 'maybe/possible'. As Ai (2006) has mentioned, many native speakers consider that when vP is deleted, the modal *you* 'to have' should be added; otherwise, the sentence is ungrammatical, as shown in (117).

- (117) a. ?*John *keneng* qu le Zhongguo, Mary ye *keneng* [e].
 John may go pfv China Mary also may
 'John might have gone to China and Mary might, too.' (Ai 2006: Chapter 4 (17))
- b. John *you keneng* qu le Zhongguo, Mary ye *you keneng* [e].
 John have may go pfv China Mary also have may
 'There is a possibility that John has gone to China and Mary has too.'

Ai (2006) describes (117a) as marginally acceptable. However, Su (2008) considers this sentence to be ungrammatical. According to my informants and my own intuition, (117a) is not grammatical. In (117b), the modal *you* 'to have' occurs and the sentence is grammatical. However, in this case, *keneng* does not act as a modal, but as a noun. The deletion is no longer involved with the modal *keneng* 'maybe/perhaps'.

Zhu (1982) inventories twenty-seven modals in Mandarin. Among those modals, some have a typical deontic interpretation, but they cannot license vP ellipsis, like *bixu* and *dei* as shown in (112). On one hand, this is partly because some of them are actually adverbs rather than modals. For example, *bixu* 'must' is commonly considered an adverb rather than a modal (e.g. Lü 1980). Adverbs cannot license vP ellipsis. On the other hand, there are some deontic modals, like *dei* and *yingdang* 'ought to/must' which cannot license vP ellipsis. This suggests that in Mandarin, the dichotomy of the deontic and epistemic modality does not correspond exactly to the modals that can license vP ellipsis and the ones that cannot. However, a detailed study of modals is far beyond the scope of this thesis. I leave the issue open for future research. Here, I adopt the dichotomy of the deontic and epistemic modal since it captures the fundamental facts, i.e. epistemic modals cannot license vP ellipsis and, except a subgroup, deontic modals are the proper licenser for vP ellipsis

To recapitulate, this section shows that in Mandarin, definite objects, the NP complement of an object, CP complements, infinitive complements and vPs that are governed by deontic modals can be deleted. The following question arises: whether these missing constituents are PF-deletion (i.e. ellipsis) or deep anaphor (i.e. *pro*-form), which will be discussed in the next section.

3.3 Evidence supporting PF-deletion

The previous section has presented the constituents that can be deleted in the *vP* domain. In this section, I exploit the diagnostics that have been adopted to test whether a missing constituent is PF-deletion (i.e. ellipsis) or deep anaphor (e.g. *pro*-form) in literature to find out whether those missing constituents are ellipsis or not. As it will turn out, the missing constituents in the putative VPE construction display the properties of PF-deletion, covering: (i) they may have a sloppy and a mixed reading. The sloppy reading is subject to the locality effect. (ii) Extraction out of the missing constituents is allowed. (iii) The missing constituents can contain an antecedent for pronominal anaphors. (iv) The missing constituents are not sensitive to the island effect. These properties suggest that the ellipsis site has an internal syntactic structure; hence, they are PF-deletion rather than *pro*-forms. This means that although the putative VPE construction in Mandarin is not VPE (i.e. V-stranding VPE) since *vP* cannot be elided, ellipsis, including NP ellipsis, DP ellipsis, CP ellipsis and *vP* ellipsis when the verb is governed by a deontic modal, takes place in the *vP* domain.

3.3.1 Sloppy readings and mixed readings

As Huang (1989, 1991) demonstrates, the putative VPE in Mandarin may have a sloppy reading. When the ellipsis site contains a pronoun, the pronoun can be referentially identical to the antecedent (i.e. strict reading), or be bound by the subject of the target clause (i.e. sloppy reading). Importantly, the sloppy identity is subject to the locality effect, as shown in the examples below.

(118) John₁ da le ta₁ de haizi, Siph₃ shuo Bill₂ ye da le [~~ta de haizi~~].

John beat pfv 3sg poss child Siph₃ say Bill₂ also beat pfv 3sg poss child

‘John beat his child and Siph₃ said that Bill₂ did too.’

(i) Strict reading: Bill₂ beat his₁ (=John’s) child.

(ii) Sloppy reading: Bill₂ beat his₂ (= Bill’s) child.

(iii) Locality effect: *Bill₂ beat Siph₃’s child.

(119) John₁ yuanyi bangzhu ta₁ de xuesheng,

John be willing to help 3sg poss student

Mary₃ zhidao Bill₂ ye yuanyi [~~bangzhu ta de xuesheng~~].

Mary know Bill also be willing help 3sg poss student

‘John is willing to help his students and Mary knows that Bill is willing to, too.’

(i) Strict reading: Bill₂ is willing to help John₁’s students.

- (ii) Sloppy reading: Bill₂ is willing to help Bill₂'s students.
- (iii) Locality effect: *Bill₂ is willing to help Mary₃'s students.

In (118), the pronoun embedded in the missing constituent can be identical to the antecedent (the strict reading) and it can also refer to Bill's child (the sloppy reading). However, it cannot refer to Siphos child. In (119), the whole vP is deleted since it is governed by the deontic modal *yuanyi* 'be willing to'. The second clause can be interpreted as meaning that Bill is willing to help John's students (i.e. the strict reading) or to help Bill's students (i.e. the sloppy reading), but it cannot refer to Mary's students. Here it shows that the missing constituents can have a sloppy reading and the sloppy reading is subject to the locality effect.

Hoji (1997, 1998) and Kim (1999) argue that the sloppy reading is not necessarily a genuine sloppy reading and it may be a sloppy-like reading. Hoji (1997) claims that a mixed reading is a genuine sloppy identity in that it exclusively relies on Formal Dependency and it thus can only be derived from PF-deletion. A deep anaphor like *pro*-form cannot yield a mixed reading. Consequently, he concludes that if a missing constituent has a mixed reading, it must be PF-deletion. Li (2002) observes that the ellipsis site in the putative VPE construction can have a mixed reading, as illustrated in the examples below.

(120) John₁ shuo guo ta₁ xihuan ta₁ de laoshi, Bill₂ ye shuo guo [e].

John say exp 3sg like 3sg poss teacher Bill also say exp
 'John₁ said that he₁ liked his teacher₁ and Bill₂ did too.'

- (i) Strict reading: Bill₂ said John₁ liked John₁'s teacher.
- (ii) Sloppy reading: Bill₂ said Bill₂ liked Bill₂'s teacher.
- (iii) Mixed reading1: Bill₂ said Bill₂ liked John₁'s teacher.
- (iv) *Mixed reading2: Bill₂ said John₁ liked Bill₂'s teacher. (Li 2002: Chapter 2 (72))

(121) John₁ shuo guo ta₁ de laoshi xihuan ta₁, Bill₂ ye shuo guo [e].

John say exp 3sg poss teacher like 3sg Bill also say exp
 'John₁ said that his teacher₁ liked him₁ and Bill₂ did too.'

- (i) Strict reading: Bill₂ said John₁'s teacher liked John₁.
- (ii) Sloppy reading: Bill₂ said Bill₂'s teacher liked Bill₂.
- (iii) Mixed reading1: Bill₂ said Bill₂'s teacher liked John₁.
- (iv) Mixed reading2: Bill₂ said John₁'s teacher liked Bill₂. (Li 2002: Chapter2 (73))

In (120), besides the strict and sloppy reading, the mixed reading is also possible (120iii). In (121), both mixed readings are available. Following Hoji (1997), these mixed readings are derived from the parallel of the syntactic structure between the ellipsis site and its antecedent. As a result, the ellipsis site must be PF-deletion.

To recapitulate, the missing constituents in Mandarin putative VPE construction may have a sloppy and a mixed reading. The sloppy reading is subject to the locality effect. These properties indicate that the missing site has an internal syntactic structure; hence it is an instance of PF-deletion rather than deep anaphora.

3.3.2 Extraction

As has been shown in the literature review chapter (Section 2.2.1), extraction has been considered to be one of the most important arguments for PF-deletion. If an element can be extracted from the ellipsis site, there must exist an internal syntactic structure. In Mandarin, extraction out of the missing constituents in the putative VPE construction is allowed. Consider the following examples.

(122) a. John zhidao Mary xihuan *na ben shu*, Bill ye zhidao [~~Mary xihuan na ben shu~~].

John know Mary like which CL book Bill also know Mary like which CL book
 ‘John knows which book Mary likes and Bill does too.’

b. John zhidao Mary xihuan *na ben shu*, Bill ye zhidao *na ben*_{*t_i*} [~~Mary xihuan *t_i*~~].

John know Mary like which CL book Bill also know which CL Mary like
 ‘John knows which book Mary likes and Bill also knows which book.’

(123) a. John zhidao shei tou le laoshi de qian,

John know who steal pfv teacher poss money

Mary ye zhidao [~~shei tou le laoshi de qian~~].

Mary also know who steal pfv teacher poss money

‘John knows who stole the teacher’s money and Mary does too.’

b. John zhidao shei tou le laoshi de qian,

John know who steal pfv teacher poss money

Mary ye zhidao *shei_i [~~t_i tou le laoshi de qian~~]*¹².

Mary also know who steal pfv teacher poss money

‘John knows who stole the teacher’s money and Mary also knows who.’

(124) a. John bu queding tamen shenme shihou qu Zhongguo,

John neg be sure 3pl what time go China

Mary ye bu queding [~~tamen shenme shihou qu Zhongguo~~].

Mary also neg be sure 3pl what time go China

‘John is not sure when they are going to China and Mary is not sure either.’

b. John bu queding tamen shenme shihou qu Zhongguo,

John neg be sure 3pl what time go China

Mary ye bu queding *shenme shihou_i*¹³ [~~tamen t_i qu Zhongguo~~].

Mary also neg be sure what time 3pl go China

‘John is not sure when they are going to China and Mary is not sure when either.’

In (122b) the *wh*-phrase object *na ben shu* ‘which book’ is extracted out of the missing CP and the sentence is grammatical. Likewise, the *wh*-phrase subject *shei* ‘who’ in (123) and the *wh*-adjunct *shenme shihou* ‘when’ in (124) are also extracted from the deleted CP. In this case, the extracted items receive a focus reading. In other words, the extraction is motivated by focus.

Likewise, when *vP* is deleted given that it is governed by a deontic modal, extraction out of the deleted *vP* is allowed, as illustrated below.

(125) Wo zhidao na xie shu John hui du, na xie_i ta bu hui [~~du t_i].~~

I know which some book John will read which some he neg will read

‘I know which books John will read and which he will not.’

¹² Mandarin is a *wh in situ* language. In this case, the fronted *wh*-phrase in the target clause typically receives a focused reading. Therefore, the focus marker *shi* often occurs, as illustrated in (i).

(i) John zhidao shei tou le laoshi de qian,

John know who steal pfv teacher poss money

Mary ye zhidao shi *shei_i [~~t_i tou le laoshi de qian~~].*

Mary also know FOC who steal pfv teacher poss money

‘John knows who stole the teacher’s money and Mary also knows WHO.’

¹³ It is worth to point out that the *wh*-phrase *shenme shihou* ‘when’ may be based-generated in the sentence-initial position. Even this is the case, it still needs a syntactic structure to reside.

(126) John yuanyi qu Zhongguo, *Zhongguo*_i Mary ye yuanyi [~~qu~~_i].
 John would go China China Mary also would go
 ‘John would go to China; China, Mary would too.’

In (125) and (126), *vP* is governed by a deontic modal and it is thus deleted in the second conjunct. The object DP is extracted from the ellipsis site for focus and topicalization, respectively. Both sentences are felicitous.

To sum up, in Mandarin, an element can be extracted out of the ellipsis site in the putative VPE construction. This suggests that the missing constituents possess an internal syntactic structure.

3.3.3 Providing antecedents for pronominal anaphors

In Mandarin, the ellipsis site can provide a missing antecedent for pronominal anaphors. When the missing object contains a relative clause, a pronominal anaphor can be bound by a constituent that is embedded in the relative clause, as illustrated in (127).

(127) Harry chen le yi sou zhuangyou yi zhi daxingxing de chuan,
 Harry sink pfv one CL carry one CL gorilla rel ship
 George ye chen le yi sou [*e*], tamem dou yan-si le.
 George also sand pfv one CL 3pl both drown-die prf
 ‘Harry sank a boat carrying a gorilla and George also sank one. They (the two gorillas) both drowned.’

In (127), the NP complement with the relative clause is deleted in the second conjunct, leaving the numeral-classifier overtly. *Tamen* ‘they’ (i.e. the two gorillas) is partly bound by the object in the missing relative clause. This indicates that the missing constituent may contain an antecedent for pronominal anaphors.

When *vP* is deleted, the elided *vP* can also provide an antecedent for pronominal anaphors, as illustrated in the following examples.

(128) a. *John bu hui mai che, buguo ta shuo *e* yiding yao shi Baoma.
 John neg will buy car but he say *pro* must need be BMW
 Lit.: ‘*John will not buy a car, but he said (it) must be a BMW.’

b. John bu hui mai che, Mary hui [~~mai che~~]_i,
 John neg will buy car Mary will buy car
 buguo ta shuo *e_i* yiding yao shi Baoma.
 but 3sg say *pro* must need be BMW
 ‘John will not buy a car. Mary will, but she said that (it) must be a BMW.’

(129) a. *John shuo ta bu keyi bangzhu xuesheng_j, dan *tamen_j* bixu shi nüsheng.
 John say 3sg neg can help student but 3pl must be female student
 Lit.: ‘*John said that he cannot help students, but (they) must be female students.’

b. John shuo ta bu keyi bangzhu xuesheng,
 John say 3sg neg can help student
 Mary shuo ta keyi [~~bangzhu xuesheng_j~~], dan *tamen_j* bixu shi nüsheng.
 Mary say 3sg can [help student] but they must be female student
 ‘John said that he cannot help students. Mary said she can, but they must be female students’

(130) John₁ hui yaoqiu ta₁ de xuesheng hua yi fu hua,
 John will require 3sg poss student paint one CL painting
 Bill₂ ye hui [~~yaoqiu ta₂ de xuesheng hua yi fu hua~~],
 Bill also will require 3sg poss student paint one CL painting
 Zuihou *e* dou jiang bei song-qu zhanlan.
 ultimately *pro* both will pass send go exhibit
 ‘John will require his student to draw one painting and Bill will too. Ultimately, (they) will both be sent for exhibiting.’

(128a) shows that the negative clause cannot provide an antecedent for the *pro* subject of the second clause. This indicates that in (128b), the elided *vP* provides an antecedent for the *pro*. Similarly, in (129b), the subject *they* is bound by the object in the elided *vP*. In (130), the *pro* subject refers to the painting that will be painted by John’s student and the one that will be painted by Bill’s student.

This section shows that in Mandarin the missing constituents in the putative VPE construction can provide an antecedent for pronominal anaphors. Providing the missing antecedent diagnostic is correct, this suggests that the elided constituents are PF-deletion not deep anaphora.

3.3.4 Insensitivity to island effects

In Mandarin, the missing constituents can occur in various syntactic islands. Consider the following examples.

- (131) John tou le *laoshi de qian* yingxiang hen bu hao,
John steal pfv teacher poss money influence very not good
Mary ye tuo le [~~*laoshi de qian*~~] rang shiqing bian de gengzao.
Mary also steal pfv teacher poss money make thing become worse
‘That John stole the teacher’s money has a bad influence and that Mary also did made things worse.’ (Subject island)
- (132) John shi yinwei Mary du guo [~~*na ben shu*~~] cai ken du *na ben shu* de.
John be because Mary read exp dem CL book only be willing to read dem CL book SFP
‘John is willing to read that book because Mary did.’ (Adjunct island)
- (133) Wo kandao le Obama canguan *bowuguan* de na pian baodao,
Isg see pfv Obama visit museum rel dem CL report
dan wo mei kandao Hillary ye canguan [~~*bowuguan*~~] de baodao.
but Isg neg see Hillary also visit museum rel report
‘I read the report that Obama visited the museum, but I did not read the report that Hillary also did.’ (Complex NP island)
- (134) Wo zhidao John da guo *Mary*,
I know John hit exp Mary
dan wo mei tingshuo guo Bill ye da guo [~~*Mary*~~] zhe ge xiaodao-xiaoxi.
but I neg hear exp Bill also hit exp Mary dem CL hearsay
‘I know that John hit Mary before, but I did not hear the hearsay that Bill also hit (Mary).’ (Complex NP island)
- (135) John piping le meiyou jiao *zuoye* de xuesheng,
John criticise pfv neg submit assignment rel student
biaoyang le jiao le [~~*zuoye*~~] de xuesheng.
praise pfv submit prf assignment rel student
‘John criticized the students who did not submit the assignment and praised the students who did.’ (Relative Clause island)

- (136) John xihuan anshi huan *shu* de xuesheng,
 John like on time return book rel student,
 ye xihuan anshi huan [~~shu~~] de laoshi.
 also like on time return book rel teacher
 ‘John likes the students who return books on time and also likes the teachers who do on time.’
 (Relative Clause island)

In (131-132), the putative VPE construction occurs in the Subject and Adjunct island, respectively. The putative VPE in (133-134) occurs in the Complex NP island and in (135-136) occurs in the Relative Clause islands. All these sentences are felicitous.

In (131-136) the object DP is deleted. Similarly, when *vP* is deleted, the elided *vP* can also occur in various syntactic islands, as illustrated in the following examples.

- (137) John hui *cizhi* rang laoban hen danyou,
 John will resign make boss very worry
 Bill ye hui [~~cizhi~~] geng rang ta tante.
 Bill also will resign more make 3sg upset
 ‘John would resign makes the boss very worried. Bill would (resign) too makes
 him more upset.’ (Subject island)
- (138) Jiran lian ni dou neng [~~da-guo~~——*ta*], wo you shenme hao danxin *da-bu-guo* ta de.
 Since even 2sg foc can beat-surpass 3sg 1sg have what good worry beat-neg-surpass 3sg SFP
 ‘Since even you can (beat him), there is no reason to worry that I cannot beat him.’
 (Adjunct island)
- (139) Shishi zhengming John hui *cizhi* de liuyan shi zhen de,
 Fact prove John will resign rel rumour be true SFP
 dan Mary ye hui [~~cizhi~~] de liuyan shi cuowu de.
 but Mary also will resign rel rumor be wrong SFP
 ‘The fact proves that the rumour that John would resign is true, but the rumour that Mary
 would (resign) too is wrong.’ (Complex NP island)
- (140) John bu hui *youyong*, keshi laoshi shuo zhiyou hui [~~youyong~~] de xuesheng keyi qu
 John neg can swim but teacher say only can swim rel student can go
 haibian.
 beach

‘John cannot swim, but the teacher said that only the students who can (swim) are allowed to go to the beach.’ (Relative Clause island)

In (137-140), there is a deontic modal that governs the *vP* and therefore, *vP* is deleted in the second conjunct. The elided *vP* appears in the Subject, Adjunct, Complex NP and Relative Clause island, respectively. These sentences are all grammatical.

To recapitulate, this shows that the elided constituents in Mandarin are not sensitive to the island effect. They can occur in various syntactic islands. Assuming the analysis that, the Null Object (i.e. *pro*) is sensitive to the island effect, but ellipsis is not, is on the right track, the insensitivity to the island effect shows that the elided constituents are PF-deletion.

Before reaching the final conclusion, we need look at the requirement of a linguistic antecedent for PF-deletion. As has been described in Chapter 2, since Hankamer & Sag (1976), many linguists treat the requirement of a linguistic antecedent as one important diagnostic for VPE. For example, Gribanova (2013) exploits the linguistic antecedent requirement and the island effect to distinguish V-stranding VPE from a Null Object construction. He argues that on one hand, V-stranding VPE requires a linguistic antecedent and the Null Object construction does not; on the other hand, the Null Object construction is sensitive to the island effect and V-stranding VPE is not. He thus concludes that under the pragmatic context, a clause with a missing object cannot occur in a syntactic island. More specifically, a clause with a missing object must be a Null Object construction under the pragmatic context, but a Null Object construction is not allowed to occur in syntactic islands. He observes that this prediction holds true in Russian, as illustrated in (141).

(141) [A young man with ripped jeans enters the room.]

*Ne volnujsja, sejčas pridët čelovek, kotoryj zaš’’ë [e].

Neg worry.2sg now come.3sg.fut person who.nom behind-sew.3sg.fut

Intended: ‘Don’t worry, soon someone who will sew (them) up will come.’

[Russian, Gribanova 2013: (34)]

Gribanova (2013) claims that in (141) there is no linguistic antecedent and the missing object must be a Null Object, but the Null Object construction is not allowed to appear in a Relative Clause island. Therefore, the sentence is not grammatical.

Unlike Russian, in Mandarin, under the pragmatic context, without any linguistic antecedent, a missing object can occur in various syntactic islands. Consider the following examples.

(142) [The teacher had been repeating the same question for several times, but no students intended to answer the question.]

The teacher: Mei you yi ge ren huida [e] rang wo hen shiwang.

neg have one CL person answer let 1sg very disappointed

‘That nobody answered (the question) makes me very disappointed.’

(Subject island)

(143) [Everybody knows that Bill does not read books. One day, John saw Bill was reading *Game of Thrones*.]

John: Ni shi yinwei Mary du guo [e] xiang zhao dianr gongtong yuyan ma?

2sg be because Mary read exp want find bit same language Q

‘Is that because Mary read (*Game of Thrones*), you want to find some common topics?’

(Adjunct island)

(144) [John lent his car to a stranger who said he would return the car by 17:00. It’s already 17:30. Mary was a bit worried.]

John: Ni bu yong danxin, huan [e] de ren yihuir jiu lai le.

You neg need worry, return rel person a while soon came SFP

‘Don’t worry. The person who is going to return (the car) will come soon.’

(Relative Clause island)

(145) [In the classroom, whilst some students were busy doing their assignment, some had submitted their assignment and were chatting with each other.]

The teacher: Yijing jiao le [e] de tongxue keyi zou le.

already submit pfv rel classmate can go SFP

Mei jiao [e] de tongxue jixu zuo [e].”

neg submit rel classmate continue do

‘The students who have submitted (the assignment) can go. The ones who have not submitted (it) keep on doing (it).’

(Relative Clause island)

In (142-145), there is no linguistic antecedent. The missing objects occur in the Subject island (142), Adjunct island (143), and Relative Clause island (144-145). These sentences are all grammatical. This suggests that the missing objects can occur in syntactic islands regardless of whether there is a linguistic antecedent or not.

The deleted *v*P can also occur under pragmatic control. This further confirms that the missing constituents do not require a linguistic antecedent. Consider the following examples.

(146) [Mary and John are watching Bill skating.]

Mary: Wo duome xiwang wo ye hui [*e*].

1sg so much wish 1sg also can

‘How I wish I could (skate) too.’

(147) [Mary successfully put a 4-inch ball into a 4-inch hole. John was standing aside observing how Mary did it.]

John: Wo ye neng [*e*].

1sg also can

‘I can (put a 4-inch ball into a 4-inch hole) too.’

In (146) and (147), no linguistic antecedent for the elided *v*P appears in the discourse and both sentences are perfectly grammatical.

Here it shows that the missing constituents, including object DPs and *v*Ps, can occur under pragmatic control. This confirms that the requirement of a linguistic antecedent is neither a necessary nor a sufficient condition for PF-deletion, which has been discussed in Chapter 2 (i.e. Section 2.2.1).

To sum up, this section has demonstrated that (i) the missing constituents in the *v*P domain can have a sloppy and a mixed reading. The sloppy reading is subject to the locality effect. (ii) A constituent can be extracted from the missing constituents. (iii) The missing constituents can provide an antecedent for pronominal anaphors. (iv) The missing constituents are not sensitive to the island effect. These properties lead us to conclude that the missing constituents in the putative VPE construction are deletion at PF rather than deep anaphora.

3.4 Conclusion

This chapter starts with a set of empirical arguments, which show that neither *v*P nor VP can be deleted in the putative VPE construction. The putative VPE construction is not V-stranding VPE. Firstly, in Mandarin, not all types of verbs can occur in the putative VPE construction. Due to the analytic feature of Mandarin, the verbs with a low transitivity cannot assign a θ -role to a covert object. Consequently, the dependent verbs, which have a weak [+ transitive] cannot occur in the putative VPE construction. This argues against the

prediction from the V-stranding VPE assumption. Providing the verb moves out of *vP* and survives ellipsis, it should assign a θ -role to the object before movement and *vP* ellipsis. Therefore, if the putative VPE construction in Mandarin was V-stranding VPE, all verbs, regardless of their transitivity, should be able to occur in the construction.

Secondly, in the *vP* domain, while definite objects can be deleted, indefinite objects must remain overt. Importantly, in Mandarin, indefinite objects remain inside *vP* obligatorily owing to the Existential Closure. This further indicates that *vP/VP* cannot be deleted. If it is deleted, indefinite objects should be also deleted compulsorily since they remain in *vP*.

Thirdly, preverbal manner adverbials and postverbal adjuncts of duration/frequency are not allowed to be deleted in the putative VPE construction. In Mandarin, preverbal manner adverbials are adjoined to *vP* structurally and postverbal adjuncts to VP. This confirms that neither *vP* nor VP can be deleted.

Fourthly, descriptive and resultative complements which are introduced by the *de*-clause are not allowed to be deleted either. The *de*-clause serves as a complement of verbs; hence, it should be deleted if *vP/VP* is deleted. Therefore, the unavailability of *de*-clause deletion further suggests that neither the big VP nor the little *vP* can be deleted.

Lastly, if the putative VPE construction is V-stranding VPE, the indirect and direct object must be deleted at the same time in the Double Object construction. However, the direct object in this construction is typically indefinite and thus cannot be deleted. In addition, although both objects can be missing simultaneously in some contexts, they are not necessarily recovered semantically. From this, it is difficult to tell whether the missing objects are attributed to VPE or to other mechanisms, such as DP deletion or *pro*. To put it differently, the absence of the two objects in the Double Object construction does not contradict the conclusion that the putative VPE construction is not VPE.

These arguments lead us to conclude that neither *vP* nor VP can be deleted in the putative VPE construction. As a result, opposite to the little *vP* ellipsis assumption (Huang 1988, 1991) and the big VP ellipsis assumption (Li 2002 and Ai 2006), this study argues that there is no V-stranding VPE in Mandarin.

Although *vP/VP* is not allowed to be deleted, definite objects, NP complements of objects, CP complements, infinitive complements and *vP* complements of deontic modals can be deleted. Moreover, these deleted constituents display the properties of PF-deletion: (i) they can have a sloppy reading and a mixed reading.

The sloppy reading is subject to the locality effect. (ii) Extraction out of the elided constituents is allowed. (iii) They can provide an antecedent for pronominal anaphors. (iv) They can appear in various syntactic islands. These properties indicate that the elided constituents have an internal structure, i.e. they are PF-deletion (i.e. ellipsis) rather than deep anaphora.

As a result, although *vP/VP* cannot be deleted if it is not governed by deontic modals, ellipsis - NP ellipsis, DP ellipsis, CP-complement ellipsis, infinitive-complement ellipsis and MCE - indeed takes place in the *vP* domain. This conclusion reveals the paradox of the putative VPE in literature. While some linguists (Huang 1988, 1991, Li 2002, Ai 2006, Su 2008 and Wei 2010) claim that the putative VPE construction is V-stranding VPE as it does display the properties of ellipsis, some argue (Xu 2003) that it is a Null Object construction in that there is evidence indicating *vP/VP* cannot be elided. The findings of this thesis show that the missing constituents are indeed ellipsis; hence, they exhibit the characteristics of PF-deletion, but not *vP* ellipsis. In the following two chapters, I will show how various types of ellipsis in the *vP* domain are derived in Mandarin and why *vP/VP* is not allowed to be deleted when it is not governed by deontic modals.

Chapter 4 The core theoretical proposal: Ellipsis EPP Hypothesis

4.0 Introduction

Chapter 3 has shown that vP/VP cannot be deleted in Mandarin unless it is governed by a deontic modal. Furthermore, NP complements of objects, definite object DPs, CP complements and infinitive complements can be deleted. Interesting questions arise immediately:

- (i) How is each type of ellipsis in the vP domain derived? Are they derived by different mechanisms or is there a unified mechanism that results in all the various types of ellipsis?
- (ii) Why can vP be deleted when it is governed by a deontic modal, but not deleted when no deontic occurs?

In this chapter, I propose the Ellipsis EPP Hypothesis to account for the ellipsis in the vP domain. The Hypothesis postulates that there exists an Ellipsis Phrase (EP) in the left periphery of vP and the EP has an [Ellipsis EPP] feature, which needs to be satisfied by the Specifier-Head relation. Maximal phrases in the c-command domain of the EP can move to [Spec, EP] to satisfy the EEPP feature. An XP will be deleted as soon as it moves to [Spec, EP].

This chapter is organised as follows. Section 4.1 provides an overview of the parallel between the constituents that can be deleted and the ones that can move out of vP in Mandarin and shows that the elidable constituents can move out of vP . In Section 4.2, based on the parallel between ellipsis and movement, I put forth the Ellipsis EPP Hypothesis. Section 4.3 summarises the chapter.

4.1 The parallel between ellipsis and movement

The constituents that cannot be deleted in the vP domain and the ones that can be deleted have been demonstrated in Section 3.1 and 3.2, respectively. The former includes the verb, indefinite object DPs, manner adverbials, postverbal adjuncts of duration/frequency, descriptive/resultative complements introduced by the *de*-clause. Without being governed by a deontic modal, the vP may not be elided either. The latter covers NP complements of objects, definite object DPs, CP complements, infinitive complements and complements of deontic modals. In what follows, I demonstrate the parallel between ellipsis and movement of the vP -internal constituents.

4.1.1 Elidable constituents and movement out of vP

As it has been shown in Section 3.2, in the vP domain, NP complements of objects, definite object DPs, CP complements, infinitive complements and complements of deontic modals can be elided. Correspondingly, these constituents are all allowed to move out of vP. This parallel is illustrated in (1-5).

- (1) a. John du-wan liang ben *shu* le, Mary ye du-wan [_{DP} liang ben [_{NP} ~~*shu*~~]] le.
 John read-finish two CL book prf Mary also read-finish two CL book prf
 ‘John has finished reading two books and Mary has also finished reading two.’
 b. [_{NP} *Shu*]_i, Mary du-wan liang ben *t_i* le.
 book Mary read-finish two CL prf
 ‘Books, Mary has finished reading two.’ (NP complement)
- (2) a. John xihuan *pingguo*, Mary ye xihuang [_{DP} ~~*pingguo*~~]
 John like apple Mary also like apple
 ‘John likes apples and Mary does too.’
 b. [_{DP} *Pingguo*]_i, Mary ye xihuan *t_i*
 apple Mary also like
 ‘Apples, Mary also likes.’ (Definite DP)
- (3) a. Wo zhidao *John du guo na ben shu*, Mary ye zhidao [_{CP} ~~*John du guo na ben shu*~~].
 Isg know John read exp dem CL book Mary also know John read exp dem CL book
 ‘I know that John read that book and Mary does/knows it too.’
 b. [_{CP} *John du guo na ben shu*]_i, Mary ye zhidao *t_i*.
 John read exp dem CL book Mary also know
 ‘John read that book Mary also knows.’ (CP Complement)
- (4) a. John dasuan guo *qu Zhongguo*, Mary ye dasuan guo [_{INF} ~~*qu Zhongguo*~~].
 John plan exp go China Mary also plan exp go China
 ‘John planned to go to China and Mary also planned to.’
 b. [_{INF} *Qu Zhongguo*]_i, Mary ye dasuan guo *t_i*.
 go China Mary also plan exp
 ‘Go to China, Mary also planned to.’ (Infinitive Complement)
- (5) a. John hui *shuo Hanyu*, Mary ye hui [_{VP} ~~*shuo Hanyu*~~].
 John can speak Mandarin Mary also can speak Mandarin
 ‘John can speak Mandarin and Mary can too.’

- b. [_{VP} *Shuo Hanyu*]_i, Mary hui *t_i*.
 speak Mandarin Mary can
 ‘Speak Mandarin, Mary can.’ (Complement of a deontic modal)

The sentences in (1-5) illustrate the parallel between the deletion of NP complement, definite object DP, CP complement, infinitive complement and *v*P complement of a deontic modal and the movement to the sentence-initial position for topicalization. It indicates that the constituents that are allowed to be deleted can move out of *v*P.

4.1.2 Unelidable constituents and their immobility

Section 3.1 has demonstrated that in the *v*P domain, the verb, indefinite object DPs, manner adverbials, postverbal adjuncts of duration/frequency, descriptive/resultative complements introduced by the *de*-clause and *v*Ps that are not governed by a deontic modal are not allowed to be deleted. Interestingly, these constituents remain inside *v*P compulsorily in Mandarin. For instance, they are not allowed to move to the sentence-initial position for topicalization. Consider the sentences in (6-13).

- (6) a. *John *xuexi* Hanyu, Mary ye [_v ~~*xuexi*~~] Hanyu.
 John learn Mandarin Mary also learn Mandarin
 Lit.: ‘John learns Mandarin and Mary Mandarin too.’
- b. * [_v *Xuexi*]_i, Mary *t_i* Mandarin.
 learn Mary Mandarin
 Lit.: ‘Learns_i, Mary *t_i* Mandarin.’ (Verb)
- (7) a. *John neng *da* lanqiu, Mary ye neng [~~*da*~~] lanqiu.
 John can play basketball Mary also can play basketball
 Lit.: ‘John can play basketball and Mary can basketball too’
- b. * [_v *Da*]_i, Mary neng *t_i* lanqiu.
 play Mary can basketball
 Lit.: ‘Play_i, Mary can *t_i* basketball.’ (Verb)
- (8) a. *John *xihuan pingguo*, Mary ye [_{VP} ~~*xihuan pingguo*~~].
 John like apple Mary also like apple
 Intended: ‘John likes apple and Mary does too.’

- b. * $[_{VP} Xihuan pingguo]_i$, Mary t_i .
 like apple Mary
 Intended: ‘Like apples, Mary does.’ (vP)
- (9) a. *John yinggai *xue guo Hanyu*, Mary ye yinggai [~~*xue guo Hanyu*~~].
 John should learn exp Mandarin Mary also should learn exp Mandarin
 Intended: ‘John must have learnt Mandarin and Mary must also have learnt Mandarin.’
- b. * $[Xue guo Hanyu]_i$, Mary ye yinggai t_i .
 learn exp Mandarin Mary also must
 Lit: ‘Have learnt Mandarin, Mary also must.’ (Complement of epistemic modals)
- (10) a. *John du guo *liang ben shu*, Mary ye du guo $[_{DP} liang ben shu]$.
 John read exp two CL book Mary also read exp two CL book
 Intended: ‘John read two books and Mary does too.’
- b. * $[_{DP} Liang ben shu]_i$, Mary du guo t_i .
 two CL book Mary read exp
 Lit.: ‘Two books_i, Mary read t_i .’ (Indefinite object)
- (11) a. *John *liulide* huida le laoshi de wenti,
 John fluently answer pfv teacher poss question
 Mary ye [~~*liulide*~~] huida le [~~*laoshi de wenti*~~].
 Mary also fluently answer pfv teacher poss question
 Intended: ‘John answered the teacher’s questions fluently and Mary did too.’
- b. * $[Liuli de]_i$, Mary t_i huida le laoshi de wenti.
 fluently Mary answer pfv teacher poss question
 Intended: ‘Mary answered the teacher’s questions FLUENTLY.’ (Manner adverbial)
- (12) a. *John ma le na ge ren *liang ci*,
 John scold pfv dem CL person two CL
 Peter ye ma le [~~*na ge ren liang ci*~~].
 Peter also scold pfv dem CL person two CL
 Intended: ‘John scolded that person twice and Peter did too.’
- b. * $[Liang ci]_i$, Mary ma le na ge ren t_i .
 two CL Mary scold pfv dem CL person
 Intended: ‘Mary scolded that person TWICE.’ (Postverbal adjunct)
- (13) a. *John chang *de hen hao-ting*, Mary ye chang [~~*de hen hao-ting*~~].
 John sing comp very good-to-listen Mary also sing comp very good-to-listen
 Intended: ‘John sings well and Mary does too.’

- b. *[*de hen hao-ting*]_i, Mary chang *t_i*.
 comp very good-to-listen Mary sing
 Intended: ‘Mary sings WELL.’ (de-clause)

In (6a), the verb is deleted, leaving the rest of the vP overt and the sentence is thus not grammatical. (6b) shows that it is ungrammatical for the verb itself to move to the sentence-initial position either. In (7), the deontic modal *neng* ‘can’ governs the vP. Like (6), the verb cannot be deleted or be fronted. The sentences in (8a-13a) illustrate that vP, complement of epistemic modals, indefinite object DP, manner adverbial, postverbal adjunct and *de*-clause cannot be deleted, respectively. Correspondingly, the sentences in (8b-13b) show that these constituents cannot move to the sentence-initial position for topicalization.

The above has shown that there exists a parallel between movement and ellipsis. This observation complies with Johnson’s (2001) VP topicalization analysis of licensing conditions for VPE in English. As has been presented in Chapter 2 (Section 2.2.2.2), Johnson (2001) claims that VPE in English is licensed by VP topicalization. A VP is first topicalized and is then deleted. However, in Mandarin, the elidable constituents are licensed to move out of vP, but topicalization is not a necessary condition for ellipsis. A constituent does not need to be topicalized in order to be deleted. This accounts for the asymmetry between ellipsis and topicalization in terms of the island effect. Topicalization of certain constituents in syntactic islands is not allowed, but they can be deleted, given the syntactic and semantic requirements for ellipsis are met, as illustrated in the following examples.

- (14) a. Mary chang qu mai *mianbao* de na jia dian guan-men le,
 Mary often go buy bread rel dem CL shop close-door prf
 keshi [Lily chang qu mai [*bianbao*]] de na jia dian hai zhengchang yingye.
 but Lily often go buy bread rel dem CL shop still normally do business
 ‘The shop where Mary often went to buy bread has closed, however the shop where Lily
 often went to buy (bread) is still open normally.’

- b. *[*Mianbao*]_i, [Mary chang qu mai *t_i*] de na jia dian guanmen le.
 bread Mary often go buy rel dem CL shop close-door prf
 Lit.: ‘Bread_i, the shop where Mary often went to buy *t_i* has closed.’
 (Relative Clause island)

- (15) a. John da *wangqiu* de shihou xihuan shuohua,
 John play tennis rel time like talk
 [Sipho da [*wangqiu*]] de shihou xihuan ting yinyue.
 Sipho play tennis rel time like listen music

‘John likes talking when he plays tennis. Siphon likes listening to music when he plays (tennis).’

- b. *[Wangqiu]_i, [John da *t_i*] de shihou xihuan shuohua,
tennis John play rel time like talk
Lit.: ‘Tennis_i, when John plays *t_i*, he likes talking.’ (Adjunct island)

(14a) shows that the object can be deleted in the Relative Clause island (one type of Complex NP islands), but it may not be extracted from the Relative Clause island for topicalization (14b). Similarly, (15) illustrates that the deleted object can occur in the Adjunct island, but it is not allowed to be extracted from it.

Here, it suggests that Johnson’s (2001) VP topicalization analysis cannot adequately account for the ellipsis of *vP*-internal constituents. In other words, ellipsis is not licensed by topicalization in Mandarin. The questions are: what results in the parallel between movement and deletion? How ellipsis is derived? These two questions will be answered on the basis of the Ellipsis EPP Hypothesis proposed in the next section.

4.2 Ellipsis EPP Hypothesis

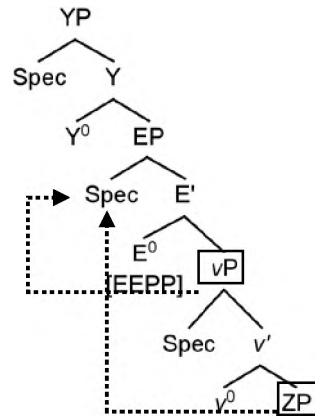
Inspired by the parallel between ellipsis and movement of the *vP*-internal constituents in Mandarin, I propose the Ellipsis EPP Hypothesis to account for how ellipsis in the *vP* domain is derived. The Hypothesis is presented in (16).

(16) Ellipsis EPP Hypothesis

- (i) There is an Ellipsis Phrase (EP) at the left periphery of *vP* and the EP has an [Ellipsis EPP] feature. The [Ellipsis EPP] feature renders an XP in the specifier phonetically empty and syntactically frozen.
- (ii) Maximal phrases in the c-command domain of the EP are all potential candidates for satisfying the [Ellipsis EPP] feature by the Specifier-Head relation (i.e. moving to [Spec, EP]). However, only the phrases that are allowed to move out of *vP* can move to [Spec, EP] as EP is located above *vP*.
- (iii) The movement to [Spec, EP] is subject to the syntactic and semantic restrictions in structure-building as ellipsis is one operation in the course of structure-building and the derivation will continue after ellipsis takes place.
- (iv) Ellipsis occurs as soon as the [Ellipsis EPP] feature is satisfied.
- (v) No ellipsis takes place if the EP does not occur structurally.

The Ellipsis EPP Hypothesis is schematically represented in (17).

(17) The syntactic structure of Ellipsis EPP Hypothesis



When there is more than one XP which meets the requirements of movement to [Spec, EP], syntactically any XP can move to [Spec, EP] and then be elided. In this case, the information structure, i.e. focus determines which XP would be elided. The Ellipsis EPP Hypothesis states that it is the unified mechanism, i.e. EP, that yields all types of ellipsis in the vP domain, covering NP ellipsis, DP ellipsis, CP-complement ellipsis, infinitive-complement ellipsis and MCE.

Within the Minimalist Program, the head such as T^0 has an EPP (i.e. Extended Projection Principle) feature, which structurally requires an overt XP to appear in the specifier (Chomsky 1995, 1998). The EPP feature can be satisfied by moving an XP (i.e. the subject) or by inserting an XP (i.e. an expletive) to the specifier (see Chomsky 1995, Bobaljik & Jonas 1996, Alexiadou & Anagnostopoulou 1998 and Déprez 2000 among others).

The [Ellipsis] feature on the EP displays some parallel properties to the EPP feature. Like the EPP feature, the [Ellipsis] feature on the EP drives an XP to move to [Spec, EP], which will be shown in detail in Chapter 5 and Chapter 8 with the data from Mandarin and Xhosa, respectively. The EPP feature forces an XP in the specifier to be pronounced (i.e. [+Phonetic]). In contrast, the [Ellipsis] feature forces an XP in the specifier to be unpronounced (i.e. [-Phonetic]). An XP must be deleted at PF as soon as it moves to [Spec, EP]. The [Ellipsis] feature dissolves the accessibility of phonetic insertion at PF. An XP will become phonetically empty and syntactically frozen when it moves to [Spec, EP]. Further syntactic operations are not possible for the XP in the specifier of EP. Therefore, I address this feature as the Ellipsis EPP (EEPP henceforth) feature in order to distinguish it from the [E] feature advocated in literature (e.g. Merchant 2001, 2004 and Aelbrecht 2010).

Regarding the semantic content of the EEPP feature, following Merchant's (2001) e-GIVENNESS, I argue that it is e-GIVEN semantically. Consequently, an XP that moves to [Spec, EP] to satisfy the EEPP feature must be e-GIVEN semantically in Merchant's (2001) terms.

In the spirit of Chomsky (1995), I argue that EP projecting varies in language. In a language, if EP projects, we expect that an XP can be deleted only when it moves to the specifier of the Ellipsis Projection (i.e. [Spec, EP]). In a language, if EP does not project, we expect that ellipsis can occur without moving to [Spec, EP]. In the Minimalist Program, lexicon holds all that is stipulated in language. The syntactic operations are uniform across-linguistically and all variations in language are encoded in the lexicon (Chomsky 1995, 1999, 2000). Lexical items are collections of morpho-phonological, semantic and syntactic features. While some features in the lexicon project, others don't. Consequently, languages are divided into two groups: strong E languages and weak E languages. Languages such as Mandarin and Xhosa have a strong EEPP feature; hence, EP projects. An XP in the c-command domain must move to [Spec, EP] to satisfy the EEPP feature and be then deleted, which will be demonstrated in Chapter 5 and Chapter 8. However, in languages like English, the EEPP feature is weak and EP at the vP left periphery does not project. As a result, no movement to [Spec, EP] can take place. As already shown in the literature review chapter (Section 2.2.2), although Johnson (2001) and Thoms (2010 a) claim that vP ellipsis in English is licensed by vP movement, many studies have provided evidence to prove that vP can be deleted without undergoing movement (e.g. Merchant 2001, 2004, 2013, Aelbrecht 2010 and Aelbrecht & Haegeman 2012).

Another piece of evidence is that in English an object DP can move out of vP for topicalization, but it is not allowed to be deleted, as illustrated in (18).

- (18) a. *John likes *Game of Thrones* and Mary likes [_{DP} ~~*Game of Thrones*~~] too.
b. [_{DP} *Game of Thrones*]_i, Mary also likes *t_i*.

The sentences in (18) show that the object DP cannot be deleted, but it can be fronted to the sentence-initial position for topicalization. If EP projects in English, we would expect that the object DP could be deleted. More specifically, the object is a potential candidate for satisfying the EEPP feature as it is a maximal phrase in the c-command domain of EP. The object is allowed to move out of vP (cf. 18b); therefore, it should be able to move to [Spec, EP] and be then deleted. The ungrammaticality of (18a) suggests that EP does not project in English. Owing to the scope of this thesis, I will not go into the discussion about how ellipsis is derived in English and recommend that the readers read among others Lobeck (1995), Merchant (2001) and Aelbrecht (2010) for more details.

It is worth pointing out that Alexiadou & Anagnostopoulou (1998) advocate that languages are divided into strong EPP languages like English, which require an overt XP to appear at the specifier of TP, and no/weak EPP languages like Greek and Arabic, which do not have such a requirement. Again, this somewhat shows the parallel between the EPP and EEPP feature in language.

4.3 Conclusion

In this chapter, based on the parallel between ellipsis and movement of the vP -internal constituents in Mandarin, the Ellipsis EPP Hypothesis has been proposed. The Hypothesis is novel in assuming that there is an Ellipsis Phrase at the left periphery of vP and that the EP bears an EEPP feature. An XP will be deleted as soon as it moves to [Spec, EP] to satisfy the strong EEPP feature. Given that the syntactic and semantic requirements are met, all maximal phrases in the c-command domain of EP can move to [Spec, EP] and be then deleted. The Ellipsis EPP Hypothesis provides a unified mechanism that accounts for all types of ellipsis in the vP domain. I will demonstrate how the ellipsis of the vP -internal constituents is derived in Mandarin and Xhosa in Chapter 5 and Chapter 8.

Chapter 5 Ellipsis EPP Hypothesis and the derivation of ellipsis in Mandarin

5.0 Introduction

In Chapter 4, I have proposed the Ellipsis EPP Hypothesis on account of the parallel between ellipsis and movement of vP -internal constituents in Mandarin. The following questions are: (i) whether the Hypothesis can account for all the types of ellipsis in the vP domain; (ii) if so, how these types of ellipsis are derived, respectively; (iii) whether the Hypothesis can preclude ellipsis from ungrammatical derivations. In this chapter, by answering these questions, I show that the Ellipsis EPP Hypothesis can neatly account for ellipsis in the vP domain, including NP ellipsis, DP ellipsis, CP-complement ellipsis, infinitive-complement ellipsis and MCE. At the same time, it can also preclude ungrammatical derivations of ellipsis. Moreover, this hypothesis adequately explains why vP is not allowed to be deleted when it is not governed by deontic modals.

This chapter is structured as follows. Section 5.1 discusses the syntactic position of EP in Mandarin and the relevant syntactic and semantic restrictions on movement to [Spec, EP]. Section 5.2, within the Ellipsis EPP Hypothesis, provides a unified analysis of how NP ellipsis, DP ellipsis, CP-complement ellipsis and infinitive-complement ellipsis are derived in the vP domain. Section 5.3 demonstrates how the Ellipsis EPP Hypothesis prohibits vP from being elided when the vP is not governed by a deontic modal. Section 5.4 discusses why deontic modals can license vP ellipsis, whereas epistemic modals cannot. Section 5.5 reveals the reasons why adjuncts, including preverbal manner adverbials and postverbal adjuncts of duration/frequency, may not be deleted. Section 5.6 demonstrates the unavailability of the deletion of descriptive/resultative complements introduced by the *de*-clause. Finally, Section 5.7 provides a summary of the chapter.

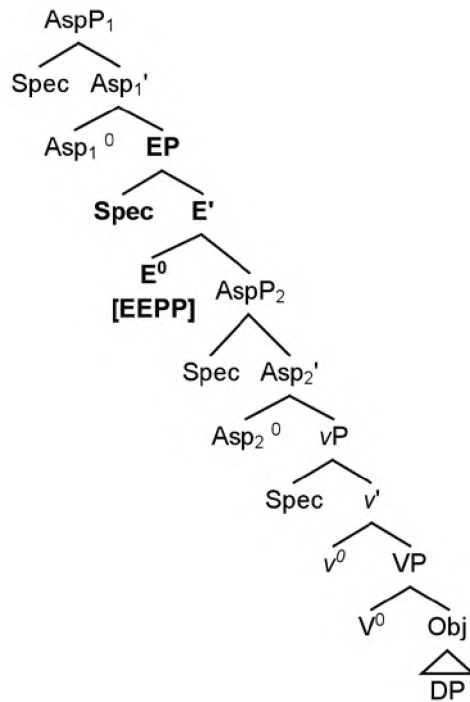
5.1 The syntactic structure of EP in Mandarin

The Ellipsis EPP Hypothesis (cf. Chapter 4 (16)) states that all maximal phrases in the c-command domain of the EP, i.e. the vP domain, are potential candidates for satisfying the EEPP feature on one hand; on the other hand, the movement to [Spec, EP] must be subject to syntactic and semantic constraints in the course of structure-building. Consequently, in order to reveal how ellipsis in the vP domain is derived and how the vP escapes ellipsis when it is not governed by a deontic modal, we need find out the syntactic and semantic restrictions on movement to [Spec, EP] in the language. To do this, we must first explore what YP is (cf. Chapter 4 (17)) as YP is directly related to the constraints of the movement to [Spec, EP] in that the

derivation will continue after νP merges with EP. Therefore, syntactic requirements of the derivation after merging EP must be met in order to ensure that ellipsis is felicitous.

This section focuses on the syntactic structure of the functional categories that play a role in the derivation of ellipsis in the νP domain. I will show that (i) in Mandarin, YP (cf. Chapter 4 (17)) is the high Aspect Phrase ($AspP_1$). Crucially, the high $AspP_1$ has an uninterpretable $[asp]$ feature which forces νP to move to $[Spec, AspP_1]$. (ii) The low Aspect Phrase ($AspP_2$) is located below EP. This is schematically represented in (1).

(1) The syntactic structure of EP in Mandarin



5.1.1 High $AspP_1$ and low $AspP_2$

There are two sets of Tense-Aspect markers in Mandarin, namely the Sentence Final Particles (SFPs henceforth) such as the perfect marker *le_s*, the recent past marker *laizhe* and the progress marker *ne* and the verbal suffixes *zhe*, *le_v* and *guo*. In what follows, I demonstrate that the former occupies the head of the high Aspect Phrase ($AspP_1$) in the Functional layer and the latter occupies the head of the low Aspect Phrase ($AspP_2$) in the Lexical layer.

Before discussing the syntactic position of these two sets of aspectual marking, I give a brief overview of these markers first. The SFP *le*, which is marked as *le_s* in this study, *laizhe* and *ne*¹⁴, as the terminology indicates, appear in a sentence-final position. Semantically, they convey temporal and/or aspectual information of a situation. The SFP *le_s* is considered to be an inchoative marker, which refers to the start of a situation (e.g. Chao 1968, Chan 1980, Lü 1980 and Melchert 1980), or be a perfect marker (e.g. Li & Thompson 1981 and Mochizuki 2000). For the purpose of convenience, I address *le_s* as the perfect marker in this thesis. With regard to the SFP *laizhe*, some linguists (e.g. Wang 1943, Chao 1968, Lü 1980, Huang & Liao 1997 and Zhang & Zhang 2000) claim that it locates a situation in the recent past, whereas others (e.g. Chen 2005 and Yang & Wang 2006) argue that it locates a situation in the past, but does not specify the recentness. The SFP *ne* indicates that an event is ongoing or a state is available at the Reference Time (Zhang 1957, Chao 1968, Lü 1980, Zhu 1982 and Huang & Liao 1997 among others). Leaving aside the debates on whether the SFP *le_s* is an inchoative marker or a perfect marker and whether *laizhe* expresses the recentness or not, all these SFPs are directly related to the temporal and/or aspectual information of a situation, as illustrated in the following examples.

(2) a. John xuexi Hanyu.

John learn Mandarin
‘John learns Mandarin.’

b. John xuexi Hanyu *le*.

John learn Mandarin prf
‘John learned/has started to learn Mandarin.’

(3) a. John qu he kafei.

John go drink coffee
‘John is going to drink coffee.’

b. John qu he kafei *laizhe*.

John go drink coffee pst
‘John went to drink coffee.’

(4) a. John zuo fan.

John do food
‘John has the habit of cooking food.’

b. John zuo fan *ne*.

John do food dur

¹⁴ There is another homophone *ne* which serves as a mood marker. This thesis only focuses on the tense-aspectual marker *ne*.

‘John is cooking food.’

Without the SFP *le_s*, the sentence (2a) has a present habitual interpretation. In (2b), *le_s* locates the event in the past. In (3a), the sentence has a future reading. When the SFP *laizhe* occurs, the sentence indicates that the event took place before the Utterance Time (3b). In (4a), the sentence has a habitual interpretation. In (4b), *ne* indicates that the event is ongoing at the Utterance Time. This demonstrates that these three SFPs provide temporal and/or aspectual information of a situation in question.

In literature, there are three different opinions on the syntactic position of these SFPs. The most widely accepted analysis is that the SFPs *le_s*, *laizhe* and *ne* is located in the IP domain, either at the head of AspP (e.g. Hsieh 2001, Shen 2004, Soh & Gao 2004 and Grano 2012) or at the head of TP (e.g. Tang 1998, 2010). However, Erlewine (2013) argues that these SFPs occupy a position in the extended vP periphery. Paul (2014) claims that they occur in the CP domain.

With regard to the verbal suffixes, traditionally, the verbal suffixes *le_v* is considered as a perfective marker which describes an event or state as a simple whole, without considering the internal structure of the time in which it occurs (e.g. Li & Thompson 1981, Mangione & Li 1993 and Smith 1997). The verbal *guo* is accepted as an experiential marker which indicates that an event has been experienced or a state has existed at least once before the Reference Time (see Chao 1968, Li & Thompson 1981, Mangione & Li 1993, Smith 1997 and Dai 1997). The verbal particle *zhe* is commonly accepted as a durative marker, which refers to the ongoingness of a situation (e.g. Lü 1980, Zhu 1982, Chen 1980, Dai 1991 and Lu 2000). These three aspectual markers must be suffixed to the verb, as illustrated in the examples below.

(5) Wo chi *le_v* liang ge pingguo.

Isg eat pfv two CL apple

‘I ate two apples.’

(6) John xue *guo* Hanyu.

John learn exp Mandarin

‘John learnt Mandarin before.’

(7) Mary chuan *zhe* yi jian hongse de qunzi.

Mary wear dur one CL red gen dress

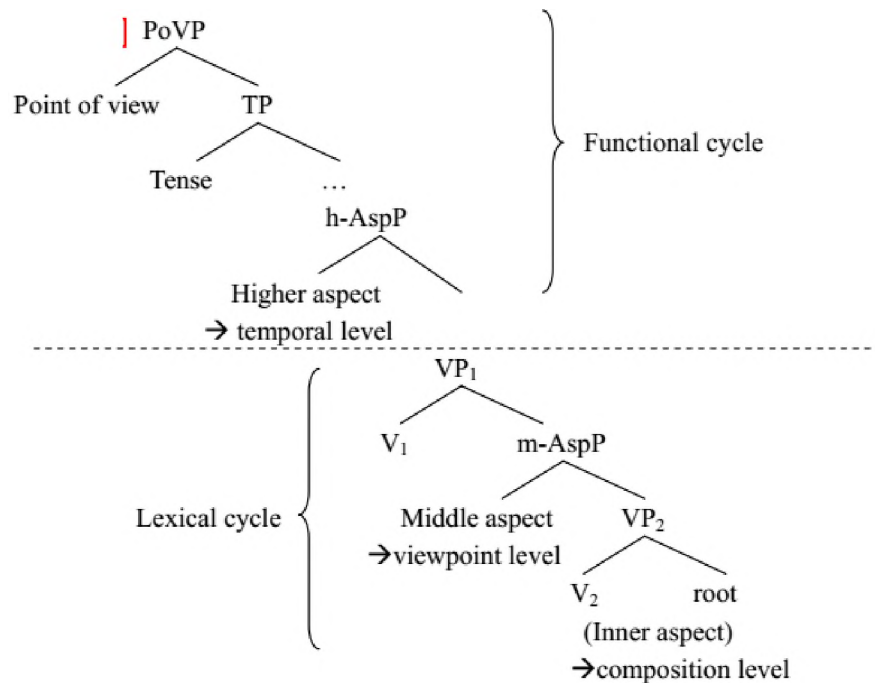
‘Mary is wearing a red dress.’

The sentences in (5-7) illustrate that the verbal *le_v*, *guo* and *zhe* are suffixed to the verb immediately. In (5), the verbal *le_v* indicates that the event has completed. In (6), *guo* manifests that the agent has the experience of learning Mandarin before. In (7), *zhe* indicates that the state in question occurs at the Utterance Time.

It has been argued by many studies that the verbal suffixes *zhe*, *le_v*, and *guo* are located in the *vP*/Predicate layer (Gu 1995, Lin 2001, Shu 2003, Liao 2004 2005 and Tsai 2007 among others). For instance, Gu (1995) provides a set of arguments to support that these verbal suffixes are encoded in the *vP* layer. Lin (2001) considers that the verbal suffixes are Aspectual Light verbs and they occupy a position at the *vP* level.

Tenny (2000) proposes that there are three Aspect Projections in syntax, namely the high, middle and low AspP. According to her “big picture” (Tenny 2000:326), the high AspP occurs in a position between TP and *vP* and the middle and the low AspPs are located in the *vP* layer. In the spirit of Tenny, Liao (2004) puts forth the three-layered aspectual structure in Mandarin. She claims that the first level is the compositional aspect, which corresponds to what is traditionally acknowledged as the lexical aspect or *aktionsart*. The second level is the grammatical aspect in traditional terms, which indicates the internal structure of a situation. The third level is the temporal aspect, which encodes the temporal structure of a situation. Liao’s (2004) three-layered aspectual structure is represented in (8).

(8) The three-layered aspectual structure in Mandarin

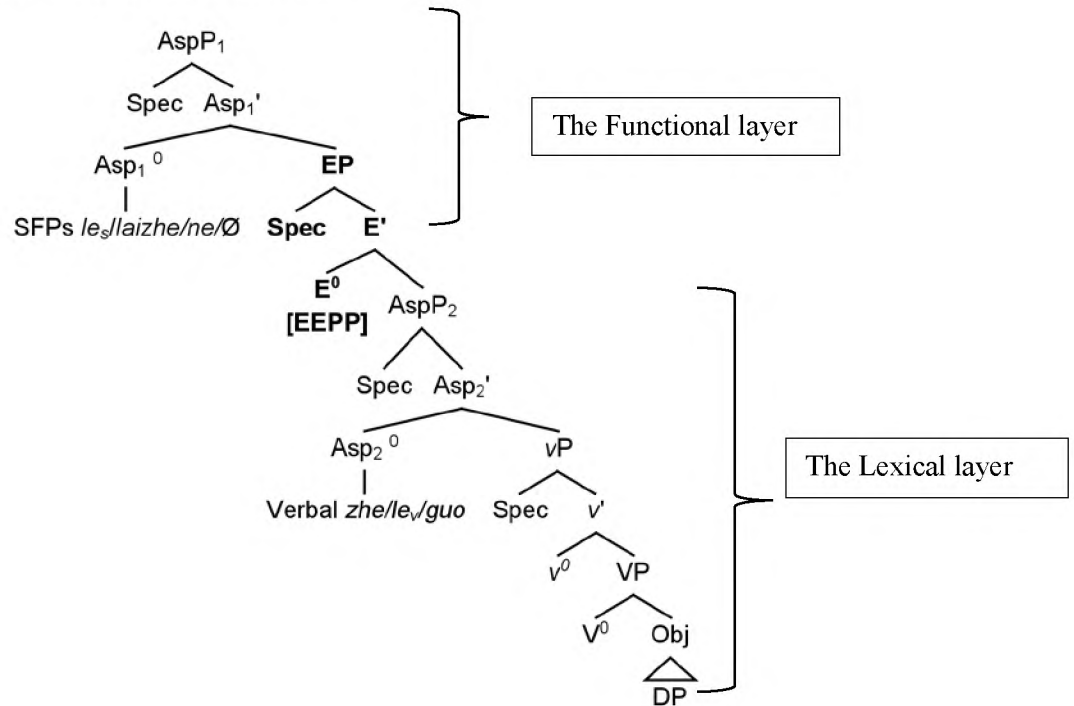


(Liao 2005: (14))

According to the tree structure (8), the SFPs *le_s*, *laizhe* and *ne* are located at the Higher Aspect in the Functional cycle in that they encode the temporal information of a situation (cf. (2-4))¹⁵, and the verbal suffixes *zhe*, *le_v* and *guo* are located in the Middle Aspect Projection in the Lexical cycle since they refer to the internal structure of a situation, i.e. whether a situation has completed as a whole or it is still in the process.

I adopt Liao's (2004) three-layered aspectual structure (also see Tsai 2007) and argue that the SFPs *le_s*, *laizhe* and *ne* occupy the Higher Aspect projection in the Functional layer which is marked as AspP₁ in this thesis, and the verbal suffixes *zhe*, *le_v* and *guo* occupies the Middle Aspect projection in the Lexical layer, which is addressed as the low Aspect phrase and marked as AspP₂ here. I will not discuss the inner aspect, as it does not relate to the concern of this study. Recall the syntactic position of EP (cf. Chapter 4 (16) and (17)). Consequently, AspP₁ occurs in a position above EP and AspP₂ is located below EP, as shown in (9).

(9) The syntactic position of AspP₁, EP and AspP₂



¹⁵ It should be pointed out that the durative marker *ne* does not directly locate an event/state in the time line. Rather, it refers to the ongoingness of a situation at the Utterance Time as shown in (4). I will not discuss the issue of how the temporal information is encoded by the durative marker *ne*.

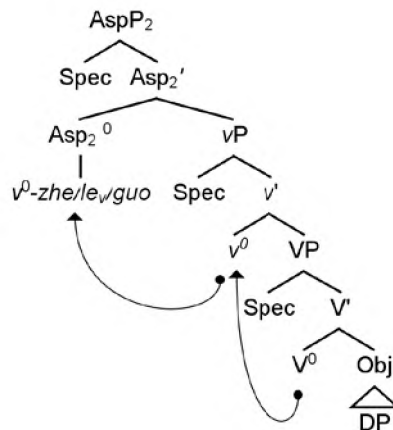
5.1.2 νP -to-[Spec, AspP₁] movement

The preceding subsection presents the syntactic position of EP relative to AspP₁ and AspP₂. In this subsection, I briefly discuss the movement relevant to AspP₁ and AspP₂ and importantly I show that νP moves to [Spec, AspP₁] to check the uninterpretable [asp] feature in Mandarin.

The literature has provided several possible approaches in which the verbal aspectual markers *zhe*, *le_v* and *guo* are suffixed to the verb. For example, Huang et al. (2009) suggests that one possible approach is to assume that the verb and the suffix aspect marker do not rely on syntactic movement, as long as the match between the aspectual information and the aspectual marker is met, the aspectual marker will be spell-out. Another approach is that assuming AspP₂ appears in the IP domain, V moves to ν overtly and the overt movement stops at ν^0 , but the verb continues to move to AspP₂ to check the [asp] feature covertly at LF. The aspectual marker *zhe*, *le₂* and *guo* are realised by covert movement, but pronounced at PF (see among others Gu 1995, Lin 2003, Huang et al. 2009 for more details).

However, provided that the analysis of the syntactic position of AspP₂ (cf. (9)) is on the right track, within Kayne's (1994) LCA, V moves to AspP₂ via head movement. This head-movement is schematically represented in (10).

(10) V^0 -to-Asp₂⁰



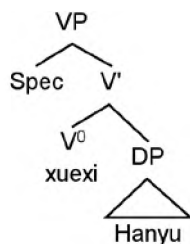
The structure in (10) shows that the verb moves to AspP₂ to merge with the verbal aspectual marking by head movement. This movement is neatly subject to Kayne's (1994) LCA. Here, I will leave the issue of which approach is the most applicable analysis in Mandarin open. Verb movement inside νP will not directly involve the derivation of ellipsis in the νP domain. In this thesis, I adopt the V^0 -to-Asp₂⁰ analysis.

Here, I am more concerned with the SFPs *le_s*, *laizhe* and *ne*. As I have already illustrated in (2b-3b), this set of aspectual marking appears in a sentence-final position. However, according to the structure (8), these SFPs occupy the head of AspP₁. At the IP level, it is commonly accepted that Mandarin is a head-initial language¹⁶. The linear order is resulted in by the Comp-to-Spec movement (e.g. Sybesma 1999, Simpson & Wu 2002, Hsieh 2005, Lin 2006 and Hsieh & Sybesma 2008). In this thesis, I adopt the head-initial assumption and argue that the high AspP₁ is head-initial. The SFP *le_s*, *laizhe* and *ne* precede their complement in the syntactic structure. The arguments for this are shown as follows.

Firstly, the preceding subsection has shown that the high AspP₁ occurs at the IP level. Disagreement about the head-finality/initiation in Mandarin mainly involves the CP layer. When it comes to IP, it is widely accepted that it is head-initial (see Huang 1982, Li 1990 and Huang & Li 1996 among others).

Secondly, in line with Kayne's (1994) LCA, the head must precede its complement. Thirdly, the analysis that Mandarin is head-final violates the Final-Over-Final Constraint (see Holmberg 2000b, Biberauer, Holmberg & Roberts 2008 and Biberauer, Newton & Sheehan 2009). The Final-Over-Final Constraint states that the complement of a head-final phrase must be head-final and a head-final phrase cannot dominate a head-initial phrase. In Mandarin, the lexical categories are head-initial (Huang 1982, Chapter 2). The verb precedes its complement, as illustrated below.

- (11) a. xuexi Hanyu
 learn Mandarin
 b.



In (11), the head V⁰ precedes the complement DP. This shows that VP is head-initial. As shown in (9), AspP₁ dominates VP. According to the Final-Over-Final Constraint, AspP₁ must be head-initial.

¹⁶ Some studies argue that Mandarin is head-final at the CP layer (e.g. Huang 1982, Li 1990, Huang & Li 1996, Erlewine 2013 and Paul 2014).

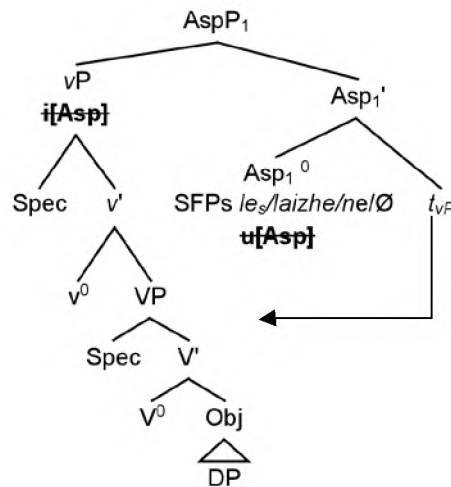
Given that the analysis that AspP₁ is head-initial is on the right track, the complement must undergo movement to [Spec, AspP₁] in order to ensure the correct linear word order. Following the literature (see e.g. Sybesma 1999, Simpson & Wu 2002, Hsieh 2005, Lin 2006 and Hsieh & Sybesma 2008 for more details), I argue that AspP₁ bears a strong uninterpretable [asp] feature, which needs to be checked by an interpretable [asp] feature. As a result, a constituent that bears an interpretable [asp] feature must move to [Spec, AspP₁] to check the uninterpretable [asp] feature. The feature-checking movement is generalised in (12).

(12) The movement to [Spec, AspP₁] in Mandarin (version 1)

- (i) AspP₁ bears a strong uninterpretable [asp] feature.
- (ii) The vP has an interpretable [asp] feature.
- (iii) The strong uninterpretable feature is checked via the Spec-Head relation.

According to (12), vP must move to [Spec, AspP₁] to check the uninterpretable [asp] feature. More precisely, when no modal occurs (ModP also bears an interpretable [asp] feature which will be discussed in Section 5.4), vP is the only constituent which bears an interpretable [asp] feature. As a result, the whole vP moves to [Spec, AspP₁], as illustrated in (13).

(13) vP-to-[Spec, AspP₁]



The operations of the derivation in (13) proceeds as follows:

- (i) Merge vP;
- (ii) Move vP to [Spec, AspP₁];
- (iii) The uninterpretable [asp] is checked and then is deleted.

Lin (2006) tries to seek evidence supporting the vP -to-[Spec, AspP₁] movement in respect of the Condition of Extraction Domain (CED). CED states that movements from a moved constituent are prohibited (Huang 1982). Lin (2006) observes that while nominal *wh*-phrases like *shenme* ‘what’ can freely occur in the complement of the SFP *le_s*, *wh*-adverbial *zenme/zenmeyang* ‘how’ cannot co-occur with the SFP *le_s*. The contrast is illustrated in the examples below.

(14) Zhangsan xiu *shenme* *le*?

Zhangsan repair what prf

‘What did Zhangsan repair?’

(Cited from Takita 2009: (9a))

(15) *Zhangsan *zenme/zenmeyang* xiu *che* *le*?

Zhangsan how repair car prf

Intended: ‘How did Zhangsan repair the car?’

(Cited from Takita 2009: (5b))

In (14), the *wh*-phrase object co-occurs with the SFP *le_s* and this sentence is totally grammatical. In (15), the *wh*-adverbial *zenmeyang* ‘how’ occurs and the sentence consequently becomes ungrammatical.

Lin (2006) argues that the incompatibility between the *wh*-adverbial *zenme/zenmeyang* ‘how’ and the SFP *le_s* is attributed to the CED effect. Tsai (1994) observes that in Mandarin, while in-situ *wh*-arguments can appear syntactic islands, in-situ *wh*-adjuncts cannot. A sentence, in which a *wh*-adjunct appears in an island, may not be used to form a direct question. Consider (16-17) below.

(16) *Ni zui xihuan [*weishenme* mai shu de ren]?

you most like why buy book rel person

Lit.: ‘Why do you like [the person who bought the books *t*]?’ (Huang et al. 2006, Chapter 7: (107))

(17) Ni zui xihuan [hui shuo *shenme* *yu* de xuesheng]?

you most like can speak what language rel student

Lit.: ‘What language do you like the students who speak *t*?’

In (16), the *wh*-adjunct *weishenme* ‘why’ appears in a Complex NP island and consequently, the sentence is ungrammatical. In contrast, example (17) shows that the *wh*-argument *shenme yu* ‘what language’ can occur in a Complex NP island. From this, Tsai (1994) claims that in Mandarin, *wh*-adjuncts moves to CP at LF, whereas *wh*-arguments do not undergo such movement.

Based on Tsai's (1994) account, Lin (2006) claims that the complement of the SFP *le_s* moves to [Spec, AspP₁] and it thus becomes an island owing to the CED effect. The *wh*-adjunct *zenme/zenmeyang* 'how' undergoes movement to CP at LF. As a result, it cannot appear in the complement of the SFP *le_s* (cf. (15)). *Wh*-arguments do not undergo movement to CP; hence, they can appear in the complement of the SFP *le_s* freely (cf. (14)).

Lin's (2006) argument would be very supportive evidence for the *vP*-to-[Spec, AspP₁] if it was plausible. However, unfortunately, Lin's assumptions are problematic. Firstly, the CED effect is canonically considered to be a constraint on overt movement (Huang 1982, Lasnik & Saito 1992 and Nunes & Uriagereka 2000 among others). Nunes & Uriagereka (2000) argue that CED only plays a role in overt movement and it does not affect covert movement at LF. Secondly, not only the SFP *le_s*, but also the verbal *le_v* is prohibited from the co-occurrence with the *wh*-adverbial *zenme/zenmeyang* 'how', as illustrated in the following examples.

(18) a. Ta xiu le shenme?

3sg repair pfv what

'What did s/he repair?'

b. *Ta zenmeyang xiu le che?

3sg how repair pfv car

Intended: 'How did s/he repair the car?'

(19) a. Ta xiao le liang ge pingguo.

3sg peel pfv two CL apple

'S/he peeled two apples.'

b. *Ta zenme xiao le liang ge pingguo.

3sg how peel pfv two CL apple

Intended: 'How did s/he peel two apples?'

The sentences in (18-19) illustrate that the *wh*-argument *shenme* 'what' can co-occur with the verbal *le_v*, whereas the *wh*-adjunct *zenmeyang* 'how' cannot¹⁷.

¹⁷ Note the sentence in (18b) is ungrammatical when *zenme* 'how' is interpreted as a manner adverbial. However, it would be grammatical if *zenme* is interpreted as meaning 'why'. In Mandarin, the *wh*-phrase *zenme* has two different meanings - the manner adverbial *how* and the reason adverbial 'why'. Tsai (1999) claims that *zenme* occurs in the IP level when it is construed as 'why' and in the *vP* when it is construed as 'how'. Thereby, Lin (2006) argues that the manner adverbial *zenme* 'how' is subject to CED in that it appears in the complement of the SFP *le_s*, whereas the reason adverbial *zenme* 'why' does not exhibit the CED effect

Lin's (2006) analysis states that the complement of the SFP *le_s* is a syntactic island as it undergoes the Comp-to-Spec movement and such movement will not take place when the SFP *le_s* does not occur. Therefore, we would expect that (18b) and (19b) were grammatical. This prediction is inaccurate due to the ungrammaticality of these two sentences. This shows that there must be independent reason that accounts for the ungrammaticality of the co-occurrence of the manner adverbial *zenme/zenmeyang* 'how' and the SFP *le_s* and the verbal *le_v*, as well. To put it differently, the incompatibility of the SFP *le_s* and the manner adverb *zenme* 'how' is not attributed to the CED violation.

Thirdly, Lin (2006) argues that in Mandarin, extracting a *wh*-phrase from the complement of the SFP *le_s* is ungrammatical as the complement of *le_s* is an island for movement owing to CED. He provides the following example to illustrate the ungrammaticality.

- (20) **Shenme dongxi*, Zhangsan fang *t_i* zai chuang-di xia le?
 What thing Zhangsan put loc bed-underneath loc pfv
 'What things, Zhangsan put (them) under the bed?' (Lin 2006: (16b))

Lin (2006) considers the sentence in (20) to be ungrammatical. However, according to my informants and my own intuition, this sentence is grammatical. In other words, *wh*-phrases can be extracted from the complement of the SFP *le_s* to the sentence-initial position for topicalization. More examples are provided below.

- (21) *Na ben shu*, Zhangsan yijing du guo *t_i* le?
 which CL book Zhangsan already read exp pfv
 'Which book did Zhangsan already read?'
 (22) *Na xie xuesheng*, Li jiaoshou zuotian jian guo *t_i* le?
 which some student Li professor yesterday meet exp pfv
 'Which students did Professor Li meet yesterday?'

In these two sentences, the *wh*-object is fronted to the sentence-initial position from the complement of the SFP *le_s*. Both sentences are grammatical. This shows that Lin's (2006) argument is not plausible.

because it occurs outside of the complement of the SFP *le_s*.

Although the empirical evidence provided by Lin's (2006) is problematic, in line with Kayne's (1994) LCA and the Final-Over-Final constraint (Biberauer, Newton & Sheehan 2009), I argue that in Mandarin, ν P moves to [Spec, AspP₁] and the movement is driven by the strong uninterpretable [asp] feature of AspP₁. The ν P phrasal movement is not unique to Mandarin. It has been attested in many languages (See Julien 2002, Mahajan 2003 and Aboh 2004 among others). For instance, Mahajan (2003) proposes that in Hindi, the normal SOV order is derived via VP-to-[Spec, IP] movement. He further claims that VP movement can be driven either by categorical features or by semantic features.

To sum up, in Mandarin, there are two Aspect Phrases, namely AspP₁ in the Functional layer and AspP₂ in the Lexical layer. EP occurs in a position above AspP₂ and below AspP₁. Moreover, AspP₁ bears a strong uninterpretable [asp] feature, which drives the ν P-to-[Spec, AspP₁] movement. The syntactic structure of the EP (cf. (9)) and the ν P-to-[Spec, AspP₁] movement (cf. (13)) play an important role in the derivation of ellipsis, which will be seen in the following sections.

5.2 Derivation of ellipsis in the ν P domain in Mandarin

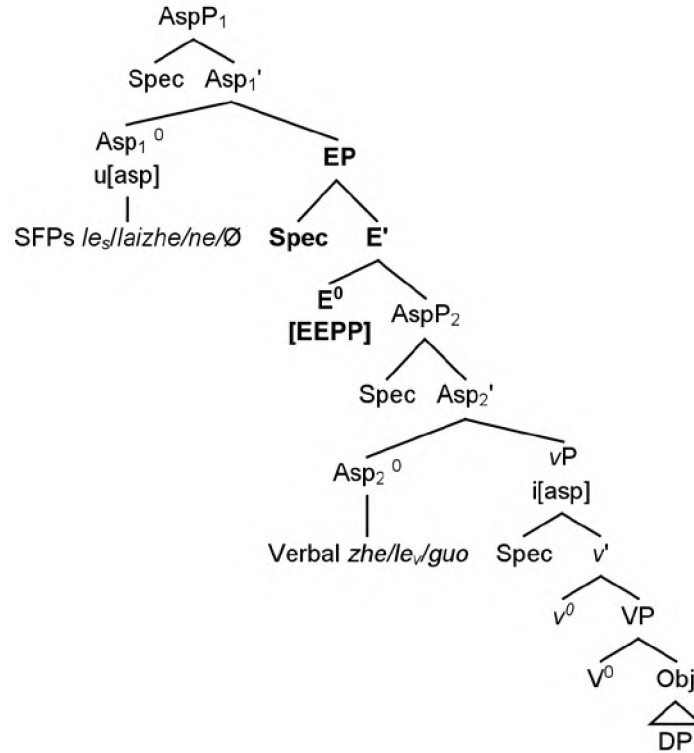
The preceding section has provided an overview of the syntactic position of the EP and AspPs in Mandarin. In this section, within the Ellipsis EPP Hypothesis, I am going to discuss how ellipsis in the ν P domain is derived. For convenience, I repeat the Hypothesis in (23).

(23) Ellipsis EPP Hypothesis

- (i) There is an EP at the left periphery of ν P and the EP has an EEPP feature. The EEPP feature renders an XP in the specifier phonetically empty and syntactically frozen.
- (ii) Maximal phrases in the c-command domain of the EP are all potential candidates for satisfying the [EEPP] feature by moving to [Spec, EP]. However, only the phrases that are allowed to move out of ν P can move to [Spec, EP] as EP is located above ν P.
- (iii) The movement to [Spec, EP] is subject to the syntactic and semantic restrictions in structure-building as ellipsis is one operation in the course of structure-building and the derivation will continue after ellipsis takes place.
- (iv) Ellipsis occurs as soon as the [EEPP] feature is satisfied.
- (v) No ellipsis takes place if the EP does not occur structurally.

The syntactic structure of EP in Mandarin is illustrated in (24).

(24) The syntactic structure of EP in Mandarin



Based on the Ellipsis EPP Hypothesis and the syntactic structure of EP in Mandarin, in what follows, I demonstrate the derivation of DP ellipsis, NP ellipsis, CP-complement ellipsis and infinitive-complement ellipsis, respectively.

5.2.1 Derivation of definite object DP ellipsis

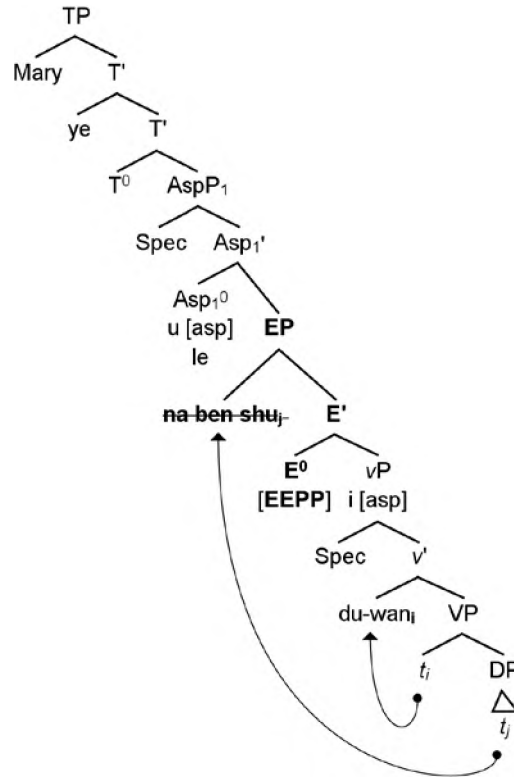
As I have already shown in Section 3.2.1, in Mandarin, definite objects can be deleted (cf. Chapter 3 (95-97)). I repeat the example (97) below as (25).

- (25) John du-wan *na ben shu* le, Mary ye du-wan [~~*na ben shu*~~] le.
 John read-finish dem CL book prf Mary also read-finish dem CL book prf
 ‘John has finished reading that book and Mary has too.’

In (25), the demonstrative phrase *na ben shu* ‘that book’, which is definite inherently, is deleted in the second conjunct and the sentence is completely grammatical.

According to the tree structure in (24), definite object DPs are maximal phrases in the c-command domain of the EP; hence, they are potential candidates for satisfying the EEPP feature (cf. (23ii)). As a result, definite object DPs can rise to [Spec, EP] to satisfy the EEPP feature legitimately and it will be deleted as soon as the EEPP feature is satisfied. The derivation is schematically represented in (26).

(26) Definite object DP ellipsis

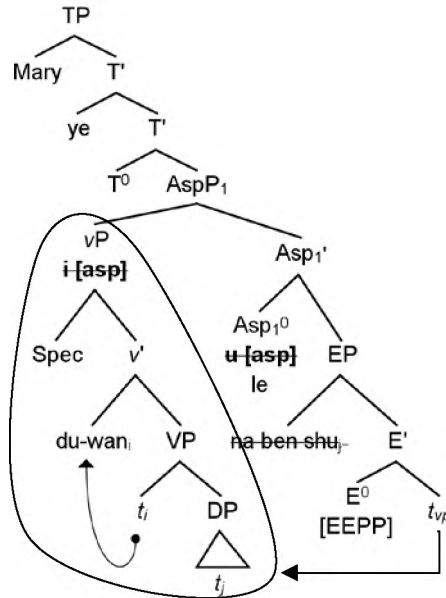


The operations of this structure proceed as follows:

- (i) Merge vP: [_{VP} duwan_i [_{VP} t_i [_{DP} na ben shu]]]
- (ii) Merge EP: [_{EP} E⁰ [_{VP} duwan_i [_{VP} t_i [_{DP} na ben shu]]]]
- (iii) Move the definite object DP to [Spec, EP]
- (iv) Delete the definite object DP

In Mandarin, as already demonstrated in Section 3.1.2.2 and Section 4.1.1, definite object DPs are allowed to move out of vP. Therefore, the movement to [Spec, EP] of the definite object is grammatical. Afterwards, the derivation continues. The vP moves to [Spec, AspP₁] to check the uninterpretable [asp] feature, as shown in (27).

(27) vP -to-[Spec, $AspP_1$]



In (27), the vP moves to [Spec, $AspP_1$] to check the uninterpretable [asp] feature. Consequently, the perfect marker *le_s* follows the vP in linear order. The subject moves to [Spec, TP] to check the EPP feature on TP. All syntactic requirements are met; hence, the derivation is grammatical.

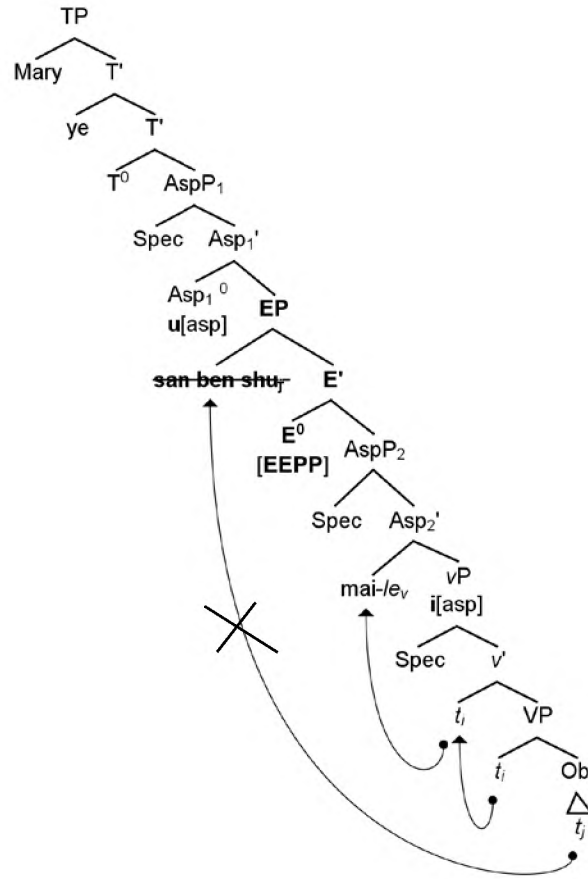
Like definite objects, indefinite object DPs are also potential candidates for satisfying the EEPP feature. However, as it has been demonstrated in Section 3.1.2.2, indefinite objects must remain in the vP in Mandarin. As a result, the movement to [Spec, EP] is not allowed. The unavailability of the deletion of indefinite object DPs is represented in (28-29) below.

(28) *John mai le *san ben shu*, Mary ye mai le [~~*san ben shu*~~].

John buy pfv three CL book Mary also buy pfv [three CL book]

Intended: ‘John bought three books and Mary did too.’

(29) The unavailability of indefinite object deletion



In (29), the operations of the derivation proceed as follows:

- (i) Merge vP: [_{vP} mai_i [_{VP} t_i [_{DP} san ben shu]]]
- (ii) Merge AspP₂: [_{AspP2} mai_i-le_v [_{vP} t_i [_{VP} t_i [_{DP} san ben shu]]]]
- (iii) Merge EP: [_{EP} E⁰ [_{AspP2} mai_i-le_v [_{vP} t_i [_{VP} t_i [_{DP} san ben shu]]]]]
- (iv) *Move the indefinite object DP to [Spec, EP]

In (29), the derivation crashes when the indefinite object DP moves to [Spec, EP] in that the movement is not possible in Mandarin. As a result, the indefinite object may not be deleted.

5.2.2 Derivation of NP ellipsis

The NP complement of an object, regardless of (in)definiteness of the object, can be deleted in Mandarin. Firstly, the NP complement of an object is a maximal phrase in the c-commanded domain of EP; therefore, it is a legitimate candidate for satisfying the EEPP feature. NP complements are allowed to move out the

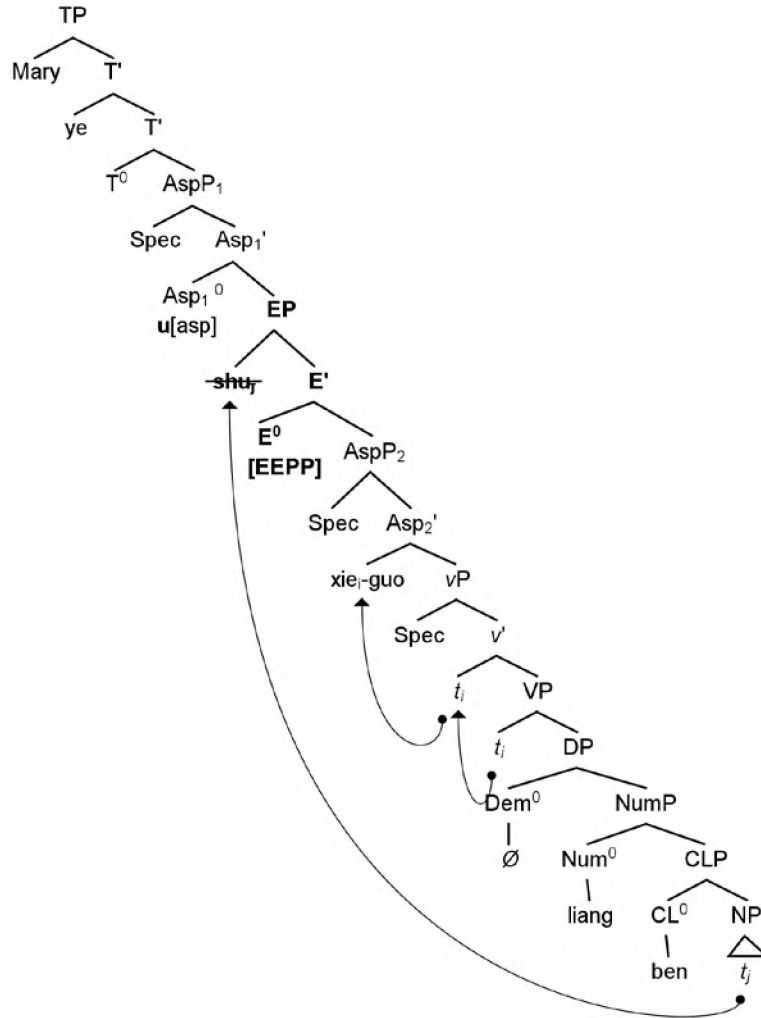
vP in Mandarin, which has been demonstrated in Section 4.1.1. As a result, it can move to [Spec, EP] and be then elided. The derivation of NP ellipsis is illustrated in (30-31) below.

(30) John xie guo liang ben shu, Mary ye xie guo liang ben _[NP *shu*].

John write exp two CL book Mary also write exp two CL book

‘John wrote two books and Mary also wrote two.’

(31) NP ellipsis



The operations of NP ellipsis in (31) proceed as follows:

(i) Merge DP: [DP [NumP liang [CLP ben [NP shu]]]]

(ii) Merge vP: [_{VP} xie_i [_{VP} t_i [_{DP} [NumP liang [CLP ben [NP shu]]]]]]

(iii) Merge AspP₂: [_{AspP₂} xie_i-guo [_{VP} xie_i [_{VP} t_i [_{DP} [NumP liang [CLP ben [NP shu]]]]]]]]

(iv) Merge EP: [_{EP} E⁰ [_{AspP₂} xie_i-guo [_{VP} xie_i [_{VP} t_i [_{DP} [NumP liang [CLP ben [NP shu]]]]]]]]]]

(v) Move NP to [Spec, EP]

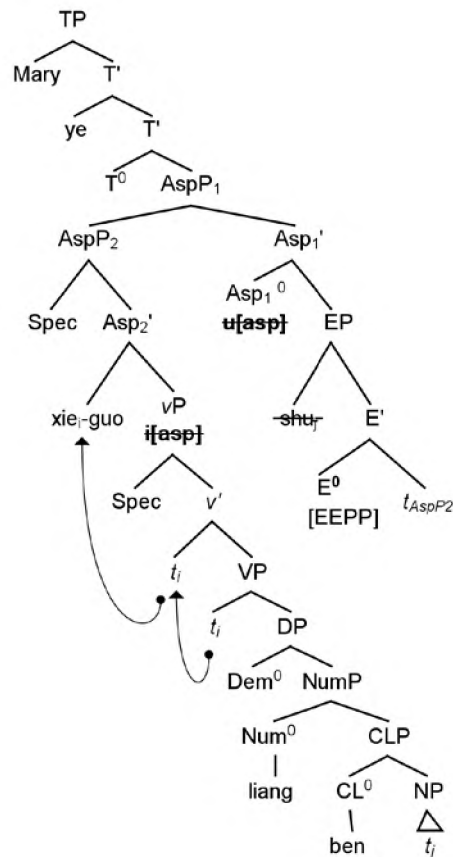
(vi) Delete NP

This derivation is valid since NPs can move out of their containing DPs to a long distance, for example, they can be fronted to the sentence-initial position for topicalization, standing the numeral and the classifier, as shown in (32).

- (32) [*Shu*]_i, Mary ye xie guo liang ben *t_i*.
 book Mary also write exp two CL
 ‘Books, Mary also wrote two.’

After the NP moves to [Spec, EP] and is elided, the whole *v*P moves to [Spec, AspP₁] to check the uninterpretable [asp] feature. It should point out that although no morphological marker occurs at the AspP₁⁰ in such a sentence, I argue that AspP₁ still bears an uninterpretable [asp] feature and *v*P must move to [Spec, AspP₁] to check the uninterpretable feature. The *v*P-to-[Spec, AspP₁] movement is schematically represented in (33).

(33) *v*P-to-[Spec, AspP₁] by pied piping AspP₂



In (33), the entire ν P moves to [Spec, AspP₁] to check the uninterpretable [asp] feature by pied piping AspP₂. AspP₂ does not have an interpretable [asp] feature; hence, it cannot move to [Spec, AspP₁] to check the uninterpretable [asp] feature on AspP₁. However, the verbal aspectual markers must be suffixed to the verb and AspP₂ cannot exist independently; as a result, the ν P pied-pipes AspP₂. Afterwards, Merge goes on until the entire structure is built. The derivation is grammatical in that no syntactic or semantic constraints are violated.

When the structural particle *de* is inserted between the attributive and NP, the NP can also undergo the same operations as that in (31), and then be elided since in such case, NP can move of its containing DP to the sentence-initial position for topicalization, stranding the rest of the DP, as illustrated in (34).

- (34) a. John xihuan baise *de* che, Mary ye xihuan [~~che~~].
 John like white *de* car Mary also like white *de* car
 ‘John likes white cars and Mary likes white cars too.’
- b. [~~Che~~], Mary ye xihuan [~~baise de t~~].
 car Mary also like white *de*
 Lit.: ‘Cars, Mary also like white.’

In (34a), the NP is elided, leaving the attributive and *de* overt. The sentence in (34b) shows that the NP can be fronted to the sentence-initial position for topicalization.

It is worth noting that DPs containing a missing NP do not only appear in the object position, but can also appear in other position. For example, they can serve as the subject, as illustrated in (35).

- (35) [*Na liang baise de* [~~che~~]] shi [wo de [~~che~~]].
 dem CL white *de* car be 1sg poss car
 ‘That white (car) is my (car).’

In (35), the DP *na liang baise de* appears in the subject position. NP ellipsis of this sort cannot undergo the movement to the specifier of the EP at the ν P left periphery. Following the EEPP Hypothesis proposed in this thesis, this suggests that there is an EP which projects on top of some projection in the nominal domain. NP moves to [Spec, EP] and ellipsis takes place¹⁸. The grammaticality of the derivation (31) suggests that

¹⁸ I owe Anikó Lipták for pointing this point out.

provided that the requirements of movement to the specifier of the EP at the left periphery of ν P are met, the NP ellipsis can be postponed until the predicate/verbal domain. Due to the scope of this thesis, I will not go into discussion about the EP projection on top of the nominal domain here and leave it for the future research.

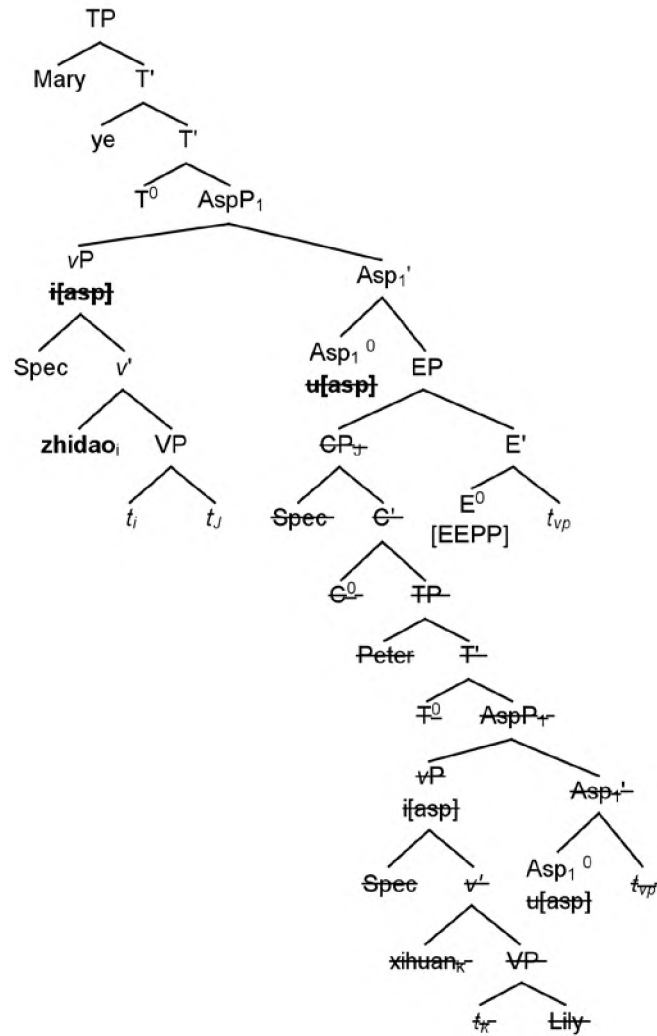
5.2.3 Derivation of CP-complement ellipsis

In Mandarin, when a CP serves as a complement of the verb, it can be deleted, which has been demonstrated in Section 3.2.3. The example (100) in Section 3.2.3 is repeated in (36).

- (36) John zhidao [_{CP} Peter xihuan Lily], Mary ye zhidao [_{CP} ~~Peter xihuan Lily~~].
John know Peter like Lily Mary also know Peter like Lily
'John knows that Peter likes Lily and Mary also does/knows (it).'

In this case, the CP is a maximal phrase in ν P; hence, it is a legitimate candidate for satisfying the EEPP feature. In addition, as shown in Section 4.1.1, CP complements are allowed to move out of ν P (cf. Chapter 4, (3b)). Consequently, it can move to [Spec, EP] and be then elided. The structure of CP-complement ellipsis is schematically represented in (37) below.

(38) νP -to-[Spec, AspP₁]



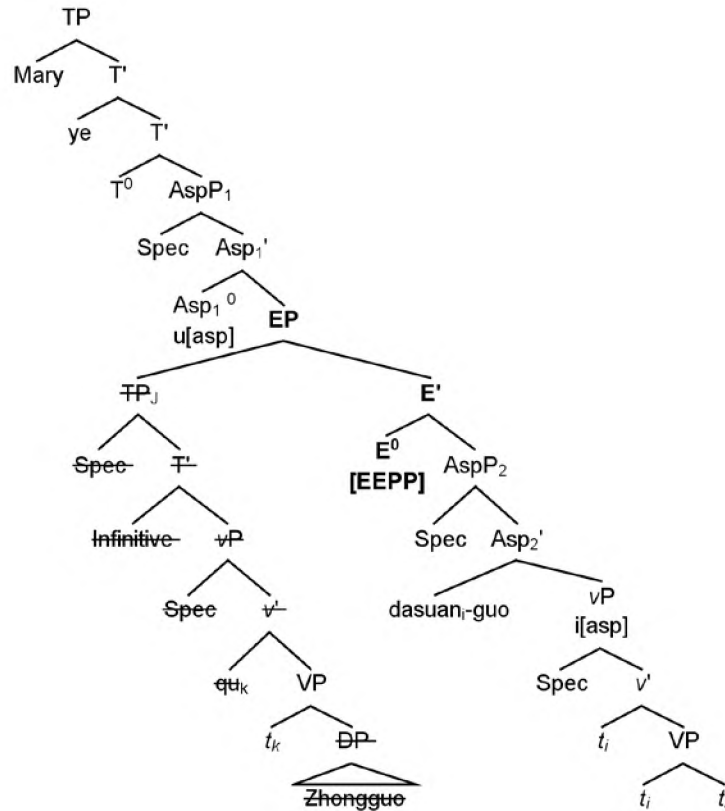
In (38), the remnant of the νP moves to [Spec, AspP₁] to check the uninterpretable [asp] feature. Afterwards, the derivation constitutes until it merges with TP. In this case, all syntactic requirements are met and the derivation is thus grammatical.

5.2.4 Derivation of infinitive-complement ellipsis

As illustrated, in Mandarin infinitive complements can also be deleted (Section 3.2.4). Like CP complements, infinitive complements are potential candidates for satisfying the [EEPP] feature as they are maximal phrases in the c-command domain of EP. Moreover, infinitive complements can move out of νP (Section 4.1.1). The derivation of infinitive-complement ellipsis is illustrated in (39-40).

- (39) John dasuan guo qu Zhongguo, Mary ye dasuan guo [_{INF} qu Zhongguo].
 John plan exp go China Mary also plan exp go China
 ‘John planned to go to China and Mary also planned to.’

(40) Infinitive-complement ellipsis

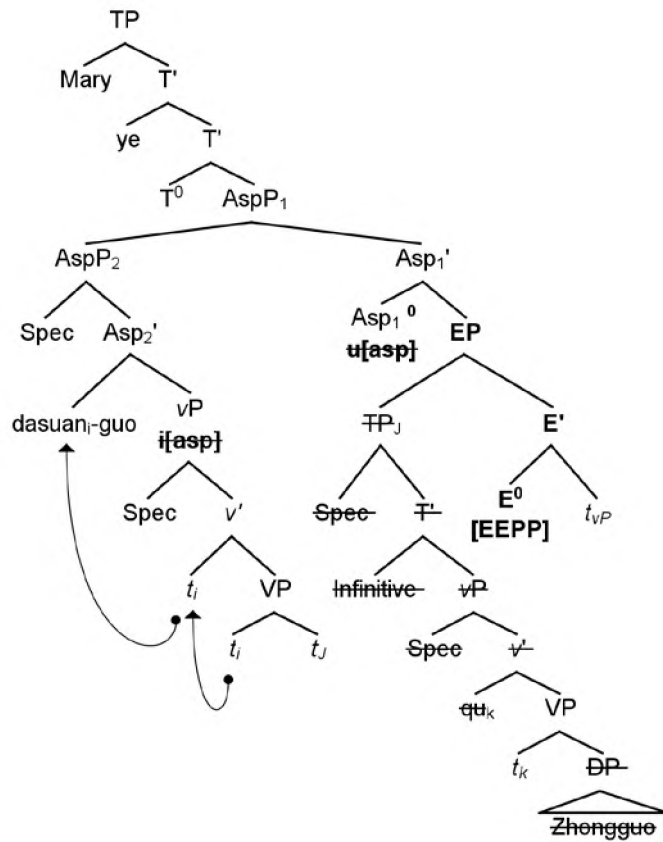


The derivation of the infinitive-complement ellipsis proceeds as follows.

- (i) Merge the infinitive complement: [_{INF} T⁰ [_{VP} qu [_{VP} t_k [_{DP} Zhongguo]]]]
- (ii) Merge vP in the main clause: [_{VP} dasuan_i [_{VP} t_i [_{INF} [_{VP} qu [_{VP} t_k [_{DP} Zhongguo]]]]]]
- (iii) Merge AspP₂ in the main clause: [_{AspP2} dasuan_i-guo [_{VP} dasuan_i [_{VP} t_i [_{INF} [_{VP} qu [_{VP} t_k [_{DP} Zhongguo]]]]]]]]
- (iv) Merge EP: [_{EP} E⁰[_{AspP2} dasuan_i-guo [_{VP} dasuan_i [_{VP} t_i [_{INF} [_{VP} qu [_{VP} t_k [_{DP} Zhongguo]]]]]]]]]]
- (v) Move the infinitive complement to [Spec, EP]
- (vi) Delete the infinitive complement

The structure-building continues after the infinitive complement is elided. Since the uninterpretable [asp] feature is not checked yet, the remnant of vP moves to [Spec, AspP₁] to check the uninterpretable feature, as illustrated in (41).

(41) ν P-to-[Spec, AspP₁] by pied piping AspP₂



In (41), the remnant of ν P moves to [Spec, AspP₁] to check the uninterpretable [asp] feature. Afterwards, AspP₁ continues to merge with TP. The derivation is grammatical as it does not violate any syntactic or semantic restriction in the course of structure-building.

To sum up, this section demonstrates that the Ellipsis EPP Hypothesis neatly accounts for the ellipsis of definite object DPs, NP complements of objects, CP complements and infinitive complements in Mandarin.

5.3 The ungrammaticality of ν P ellipsis

In Section 3.1, I provided a range of evidence to prove that ν P cannot be deleted if it is not governed by a deontic modal in Mandarin. In what follows, I am going to reveal the reason why ν P is not allowed to be deleted. For convenience, I repeat the example (1b) in Chapter 3 as below (42).

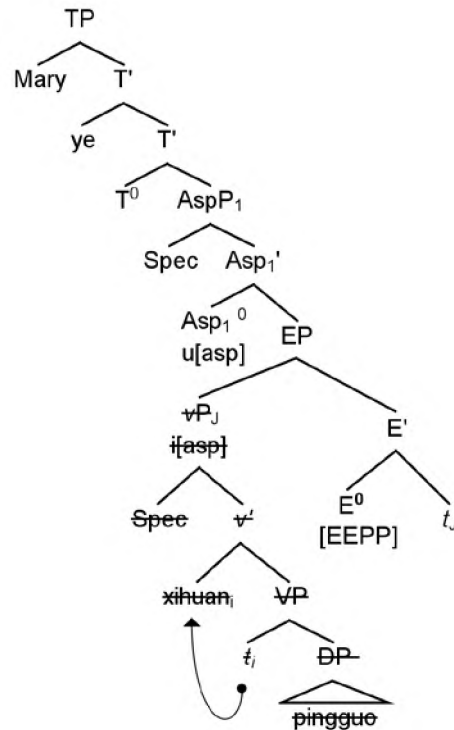
(42) *John xihuan pingguo, Mary ye [_{ν P} ~~xihuan pingguo~~].

John like apple Mary also like apple

Intended: 'John likes apples and Mary does too.'

On account of (23ii), which stipulates that all maximal phrases in the c-command domain of EP are potential candidates for satisfying the EEPP feature, νP is a legitimate candidate for moving to [Spec, EP]. In other words, νP should be able to move to [Spec, EP] for ellipsis, as illustrated in (43).

(43) νP -to-[Spec, EP]



The derivation of the structure in (43) proceeds as follows:

- (i) Merge νP : [νP xihuan_i [νP t_i [DP pingguo]]]
- (ii) Merge EP: [EP E⁰ [νP xihuan_i [νP t_i [DP pingguo]]]]
- (iii) Move νP to [Spec, EP]
- (iv) Delete νP

According to the Ellipsis EPP Hypothesis, the EEPP feature renders the νP in the specifier syntactically frozen. The elided νP cannot participate in further syntactic operations. As a result, it leaves the uninterpretable [asp] feature unchecked. However, the Full Interpretation requires all uninterpretable features to be checked before PF (see Chomsky 1995 and Adger 2003 among others). Therefore, the derivation represented in (43) crashes.

To conclude, when no deontic modal occurs, νP is the only phrase that bears an interpretable [asp] feature; hence, it must move to [Spec, AspP₁] to check the uninterpretable [asp] feature. If νP is elided, it will leave

the uninterpretable [asp] feature unchecked, which violates the requirement of Full Interpretation and consequently, the derivation crashes. Therefore, *vP* may not be deleted when it is not governed by a deontic modal.

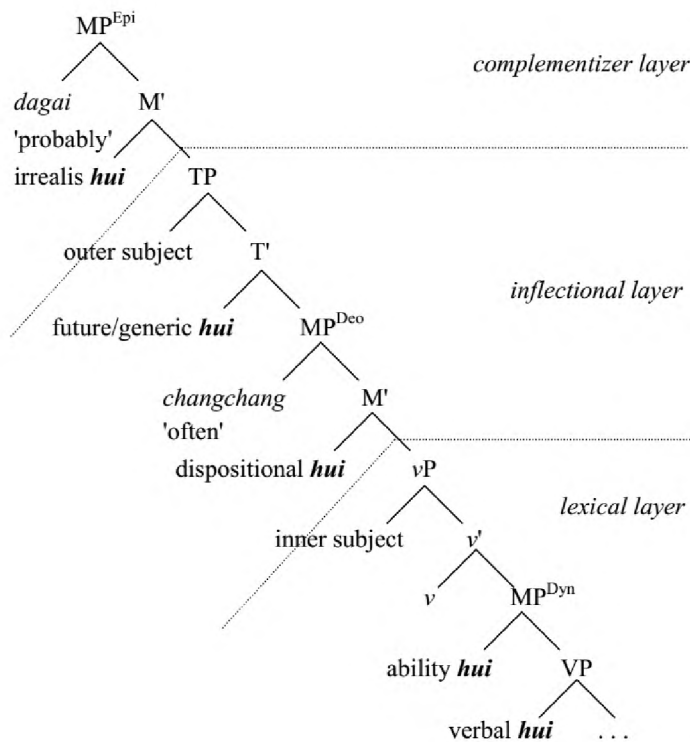
5.4 Derivation of MCE

In Mandarin, the *vP* is licensed for ellipsis if it is governed by a deontic modal (i.e. MCE). In this section, I am going to demonstrate how deontic modals license *vP* ellipsis and why epistemic modals cannot license *vP* ellipsis in Mandarin.

5.4.1 The syntactic position of ModPs in Mandarin

Before examining *vP* ellipsis, let us first look at the syntactic status of modals in Mandarin. In natural languages, epistemic modals are merged higher than deontic modals structurally (e.g. Roberts 1998 and Cinque 1999). Tsai (2015) proposes that modals in Mandarin are divided into three groups, namely epistemic modals, deontic modals and dynamic modals, which occur at the CP layer, the IP layer, and the *vP* layer, respectively. The structure is represented in (44).

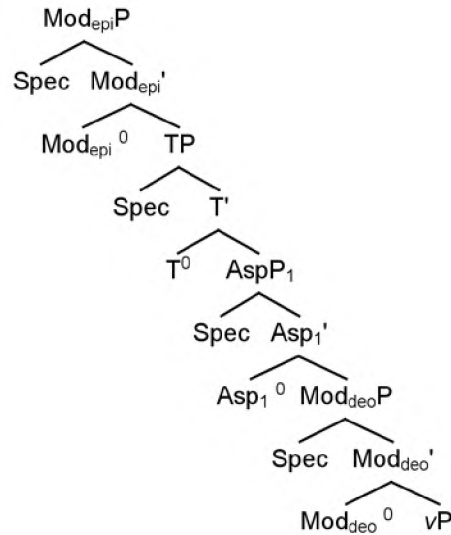
(44) The three-layered structure of Mandarin modals



(Tsai 2015: (25))

The structure in (44) shows that in Mandarin epistemic modals occur in the CP domain and deontic modals occur in the IP domain. This means that the epistemic modal phrase ($\text{Mod}_{\text{epi}}\text{P}$ henceforth) occupies a position above AspP_1 since AspP_1 is located in the IP domain, which has been presented in Section 5.1. The deontic modal phrase ($\text{Mod}_{\text{deo}}\text{P}$ henceforth) occurs in a position below AspP_1 and above vP . The syntactic position of $\text{Mod}_{\text{epi}}\text{P}$, AspP_1 and $\text{Mod}_{\text{deo}}\text{P}$ is illustrated in (45).

(45) The syntactic position of $\text{Mod}_{\text{epi}}\text{P}$, AspP_1 and $\text{Mod}_{\text{deo}}\text{P}$



The structure (45) shows that AspP_1 occurs in a position below $\text{Mod}_{\text{epi}}\text{P}$, but above $\text{Mod}_{\text{deo}}\text{P}$. The empirical evidence for this claim comes from the fact that the SFPs *le_s* and *laizhe* take scope over deontic modals¹⁹, but they fall in the scope of epistemic modals. Consider the following examples.

(46) a. Mary he putaojiu *le*.

Mary drink wine prf

‘Mary has started to drink wine.’²⁰

(i) The fact: Mary drinks wine at the utterance time.

(ii) Implying: Mary did not drink wine before.

b. Mary neng he putaojiu *le*.

Mary can drink wine prf

‘Mary can drink wine.’

¹⁹ The SFP *ne* generally may not co-occur with modals in that it indicates the ongoing nature of an event or the continuity of a state. It is not compossible with modals semantically.

²⁰ It should note that this sentence can also be interpreted as meaning that *Mary drank*.

- (i) The fact: Mary can drink wine at the utterance time.
(ii) Implying: Mary could not drink wine before.
- c. Mary *yinggai* he putaojiu *le*.
Mary should drink wine prf
‘Mary should have started to drink wine.’
- (47) a. Mary chang liuxing gequ *le*.
Mary sing popular song prf
‘Mary has started to sing pop songs.’
(i) The fact: Mary sings pop songs at the utterance time.
(ii) Implying: Mary did not sing pop songs before.
- b. Mary *hui* chang liuxing gequ *le*.
Mary can sing popular songs prf
‘Mary can sing pop songs.’
(i) The fact: Mary knows how to sing pop songs at the utterance time.
(ii) Implying: Mary did not know how to sing pop music before.
- c. Mary *keneng* chang liuxing gequ *le*.
Mary may/probably sing popular songs prf
‘Mary may have started to sing.’

In (46a), the SFP *le_s* expresses the inchoative reading of the habit *drinking wine* and it implies that Mary did not have the habit before. In (46b), the SFP *le_s* gives the whole modal phrase an inchoative reading, and it implies that Mary did not have the ability/permission drinking wine before, and she has it now. This means that the SFP *le_s* takes scope over the modal *neng* ‘can’. In contrast, in (46c), the sentence does not have such implicature. The SFP *le_s* takes scope over the vP, but not the epistemic modal *yinggai*. Similarly, the sentences in (47) exhibit the SFP *le_s* taking scope over the verb (47a) and the deontic modal *hui* ‘can’ (47b), but not the epistemic adverb *keneng* ‘may/might/probably’ (47c). Here, it shows that the SFP *le_s* occurs in a position higher than deontic modals, but lower than epistemic modals. That is to say, AspP₁ is higher than Mod_{epi}P and lower than Mod_{deo}P in the syntactic structure.

Another piece of evidence for the syntactic position of these three phrases is that the perfect aspectual adverb *yijing* ‘already’ must precede deontic modals, but follow epistemic modals, as illustrated in the following examples.

(48) a. John *yijing hui* da lanqiu le.

John already can play basketball prf

‘John can already play basketball.’

b. *John *hui yijing* da lanqiu le.

John can already play basketball prf

(49) a. John *yinggai yijing* kan guo zhe bu dianying le.

John should already watch exp dem CL movie prf

‘John should have already watched this movie.’

b. *John *yijing yinggai* kan guo zhe bu dianying le.

John already should watch exp dem CL movie prf

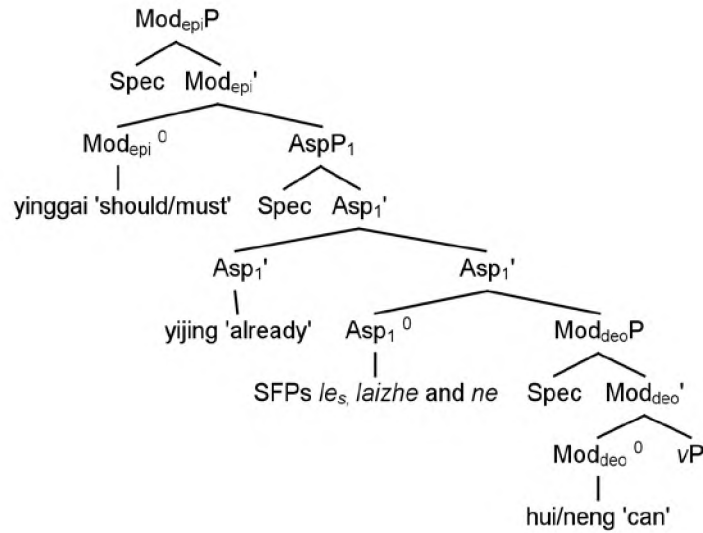
(48) shows that the aspectual adverb *yijing* ‘already’ must precede the deontic modal *hui* ‘can’ (48a). It is ungrammatical when it follows the modal (48b). In contrast, (49) exhibits that *yijing* ‘already’ must follow the epistemic modal *yinggai* ‘should/ought to’.

Cinque (1999) proposes that adverbials from different classes enter to a rigidly fixed order across languages. Each class corresponds to a functional head²¹. In line with Cinque (1999), the perfect aspectual adverbial *yijing* ‘already’ should be paired with the SFP *le_s*, which is considered as the perfect marker (Li & Thompson 1981 and Mochizuki 2000 among others). Therefore, they must occur in the same domain structurally. Accordingly, the linear order of the perfect aspectual adverb *yijing* ‘already’, the deontic modal and the epistemic modal illustrated in (48-49) implies that AspP₁ occupies a position between Mod_{de}P and Mod_{epi}P. This is schematically represented in (50).

²¹Based on a cross-linguistic investigation about the relation between adverbials and functional heads, Cinque proposes the universal hierarchy of clausal functional projections, as shown below.

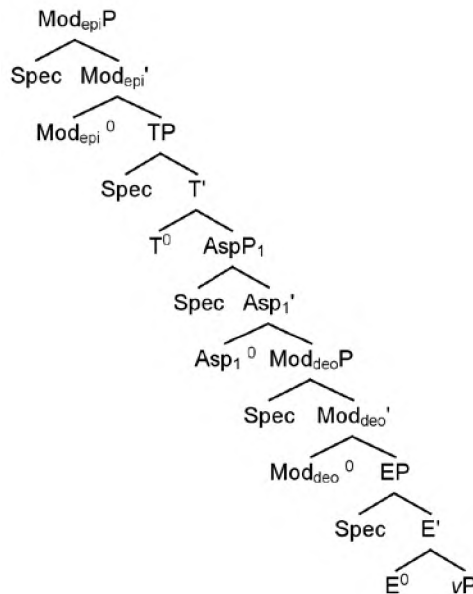
[*frankly* Mood speech act] [*fortunately* Mood evaluate] [*allegedly* Mood evidential] [*probably* Mod epistemic] [*once* T(Past)] [*then* T(Future)] [*perhaps* Mood irrealis] [*necessarily* Mod necessity] [*possibly*] [Mod possibility] [*usually*] [Asp habitual] [*again* Aps repetitive (I)] [*often* Aps frequentative (I)] [*intentionally* Mod volitional] [*quickly* Aps celerative(I)] [*already* T(Anterior)] [*no longer* Asp terminative] [*still* Asp continuative] [*always* Asp perfect(?)] [*just* Asp retrospective] [*soon* Asp proximative] [*briefly* Asp durative] [*characteristically* (?) Asp generic/progressive] [*almost* Asp continuative] [*always* Asp prospective] [*completely* Asp SgCompletive(I)] [*tutto* AspPICompletive] [*well* Voice] [*fast/early* Asp celerative(II)] [*again* Asp repetitive (II)] [*often* Asp frequentative(II)] [*completely* Asp SgCompletive(II)]. (Cinque 1999:106)

(50) The syntactic position of the perfect aspectual adverb *yijing* 'already'



The above arguments show that in Mandarin, $AspP_1$ occurs in a position higher than $Mod_{epi}P$ and lower than Mod_{deop} . Recall that the Ellipsis EPP Hypothesis stipulates that EP occurs in the left periphery of vP (cf. (23)). Therefore, the full structure of these functional categories is illustrated in (51).

(51) The syntactic position of $AspP_1$, $Mod_{epi}P$, Mod_{deop} and EP



Keep this structure in mind, in the following subsection, I demonstrate how vP is licensed to be deleted when it is governed by a deontic modal.

5.4.2 The ability of deontic modals for licensing *vP* ellipsis

Lin & Tang (1995) observe that in Mandarin, modals, including epistemic and deontic modals, determine the argument structure of a sentence. They claim that modals are instances of verbs in Mandarin. Huang et al. (2009) demonstrate that modals in Mandarin can take a clause as a subject or as a complement. They therefore argue that modals in Mandarin are lexical verbs. Consider the following examples.

(52) [_{CP} Ni cizhi] keyi, [_{CP} ta jieban] bu xing!
you resign be permitted he take over one's position not all right
'You may resign, but he can't be hired for your position!'
(Huang et al. 2009: Chapter 3 (62a))

(53) Keyi [_{CP} ni qu], ye keyi [_{CP} ta qu].
be permitted you go or be permitted he go
'You may go or he may go.'
(Huang et al. 2009: Chapter 3 (65a))

In (52), these two modals take a CP as the subject and in (53) the modal takes a CP as the complement. Both sentences are completely grammatical.

In this thesis, I adopt the analysis that modals behave like verbs in Mandarin and assume that like *vP*, *Mod_{deo}P* and *Mod_{epi}P* have an interpretable [asp] feature. Therefore, they can move to [*Spec*, *AspP*₁] to check the uninterpretable [asp] feature of *AspP*₁. As a result, the generalization of the movement to [*Spec*, *AspP*₁] (cf. (13)) is modified as below.

(54) The movement to [*Spec*, *AspP*₁] in Mandarin (final version)

- (i) *AspP*₁ bears a strong uninterpretable [asp] feature, which must be checked via the Head-*Spec* relation.
- (ii) *vP* and *ModP* have an interpretable [asp] feature.
- (iii) The feature-checking is subject to the Minimality effect. The uninterpretable [asp] feature is checked by the closest XP that has a corresponding interpretable feature in its c-command domain.

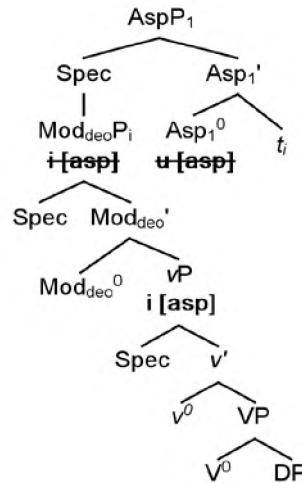
(54) states that when a deontic modal occurs, *Mod_{deo}P* and *vP* have an interpretable [asp] feature. Therefore, both of them are legitimate candidates for checking the uninterpretable [asp]. However, Rizzi (1990, 2001)

proposes that the syntactic processes are subject to the Minimality effect. The Minimality effect requires that in the configuration:

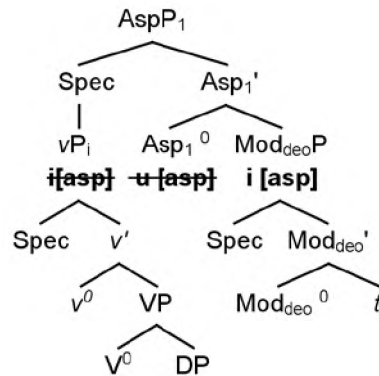
(55) ...X...Z...Y...

Y cannot be related to X if Z intervenes and Z and X have the same characteristics. Y must be in a minimal configuration with X in order to be related to X (Rizzi 2001:89). Since $\text{Mod}_{\text{deo}}\text{P}$ and νP both have an interpretable [asp] feature, $\text{Mod}_{\text{deo}}\text{P}$ intervenes between AspP_1 and νP ; consequently, νP cannot be related to AspP_1 in terms of the uninterpretable [asp] feature-checking. Instead, $\text{Mod}_{\text{deo}}\text{P}$ must move to [Spec, AspP_1] to check the uninterpretable [asp] feature, as shown in (56) and (57).

(56) $\text{Mod}_{\text{deo}}\text{P}$ -to-[Spec, AspP_1]



(57) The ungrammaticality of νP -to-[Spec, AspP_1]



In (56), Mod_{de}P moves to [Spec, AspP₁] to check the uninterpretable [asp] feature. This movement obeys the Minimality effect as Mod_{de}P is in the minimal configuration with AspP₁. Consequently, the movement is grammatical. In contrast, in (57), vP moves to [Spec, AspP₁] to check the uninterpretable [asp] feature, which violates the Minimality effect owing to the intervention of Mod_{de}P. As a result, this movement is ungrammatical.

Now let us return to vP ellipsis. vP ellipsis has been presented in Section 3.2.5. For convenience, the example (58) is repeated below.

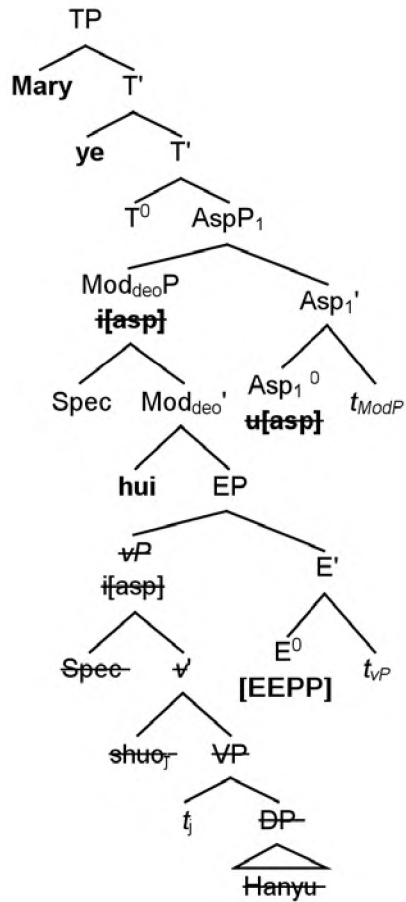
(58) John hui *shuo Hanhyu*, Mary ye hui [~~*shuo Hanhyu*~~].

John can speak Mandarin Mary also can [speak Mandarin]

‘John can speak Mandarin and Mary can too.’

According to the Ellipsis EPP Hypothesis (cf. (23)), vP is a potential candidate for satisfying the EEPF feature. Therefore, it can move to [Spec, EP]. After the vP-to-[Spec, EP] movement, the remnant of Mod_{de}P moves to [Spec, AspP₁] to check the uninterpretable [asp] feature. This derivation is schematically represented in (59).

(59) The derivation of MCE



The operations of the derivation in (59) proceed as follows:

- (i) Merge vP : [vP shuo_j [VP t_i [DP Hanyu]]]
- (ii) Merge EP : [EP E^0 [vP shuo_j [VP t_i [DP Hanyu]]]]]
- (iii) Move vP to [$Spec$, EP]
- (iv) Delete vP
- (v) Merge $Mod_{deo}P$: [$ModP$ hui [EP E^0 [vP shuo_j [VP t_i [DP Hanyu]]]]]]]
- (vi) Merge $AspP_1$: [$AspP_1$ $AspP_1^0$ [$ModP$ hui [EP E^0 [vP shuo_j [VP t_i [DP Hanyu]]]]]]]]]
- (vii) Move $Mod_{deo}P$ to [$Spec$, $AspP_1$] and check the uninterpretable [asp] feature

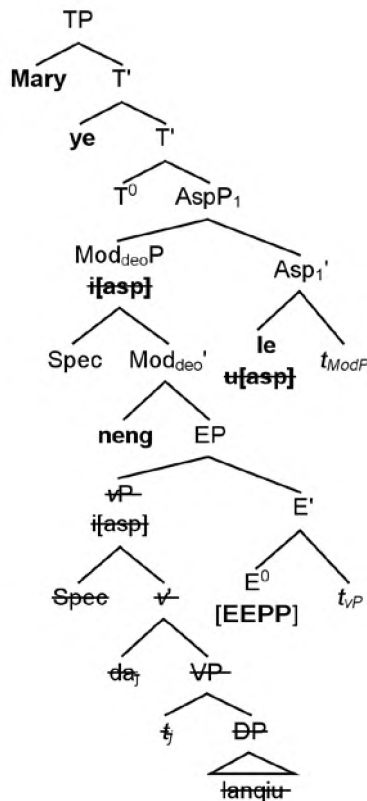
In the course of this derivation, all syntactic restrictions are satisfied. To be specific, vP is allowed to move out of the vP domain when it is governed by a deontic modal (see Section 4.1.1). The uninterpretable [asp] feature is checked by the interpretable [asp] feature of $Mod_{deo}P$. The movement obeys the Minimality effect. As a result, the derivation is grammatical. This shows that when a deontic modal appears, $Mod_{deo}P$ moves to [$Spec$, $AspP_1$] to check the uninterpretable [asp] feature and vP thus can move to [$Spec$, EP] for ellipsis.

When the SFP *le_s* and *laizhe* co-occur with a deontic modal, as expected, while *vP* is deleted, the SFPs and deontic modals remain overt, as illustrated in (60).

- (60) a. John neng da lanqiu le, Mary ye neng [~~vP da lanqiu~~] le.
 John can play basketball prf Mary also can play basketball prf
 ‘John can play basketball at the utterance time (he could not before) and Mary can too (she could not before).’
- b. *John neng da lanqiu le, Mary ye neng [~~da lanqiu~~—le].
 John can play basketball prf Mary also can play basketball prf
 Intended: ‘John can play basketball at the utterance time (he could not before) and Mary can too (she could not before).’

In (60a), while the *vP* is deleted, the modal *neng* ‘can’ and the SFP *le_s* remain overt. The second clause has the same truth condition and implicature as the antecedent. In (60b), the *vP* and the SFP *le_s* are both deleted in the second conjunct. Consequently, this sentence is not grammatical for expressing the same meaning as the antecedent, i.e. Mary could not play basketball before and she can at the utterance time. The syntactic structure of *vP* ellipsis in (60a) is schematically represented in (61).

(61) The remaining of the SFP *le_s* in MCE



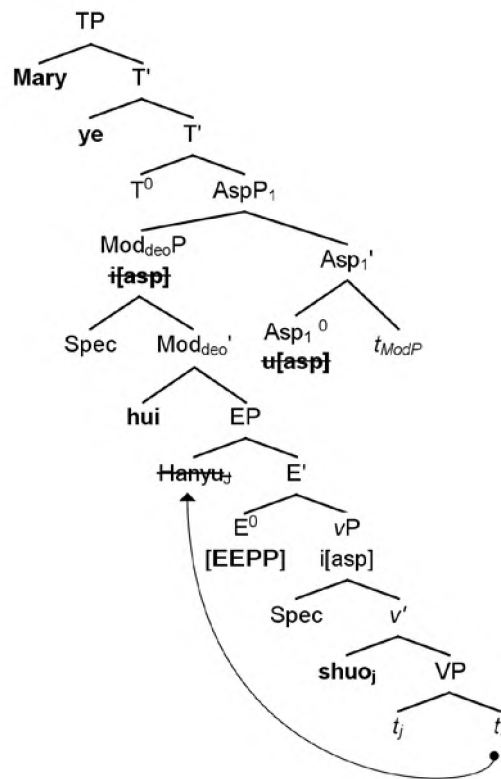
In (61), the vP moves to [Spec, EP] and is then deleted. Afterwards, the remnant of the deontic ModP moves to [Spec, AspP₁] to check the uninterpretable [asp] feature. Consequently, the deontic modal and the SFP le_s remain overt obligatorily.

In addition, when the object is definite, the object can be deleted on its own, leaving the deontic modal and the verb overt, as illustrated in (62).

- (62) John hui shuo *Hanyu*, Mary ye hui shuo [_{DP} *Hanyu*].
 John can speak Mandarin Mary also can speak [~~Mandarin~~]
 ‘John can speak Mandarin and Mary can speak (Mandarin), too.’

By comparison with (58), in (62) only the definite object DP is deleted in the target clause and the sentence is completely grammatical. In this case, the definite DP moves to [Spec, EP] and is then deleted. The vP moves to [Spec, AspP₁] within Mod_{deo}P. This derivation is schematically represented in (63).

- (63) The deletion of definite objects in vP s governed by deontic modals



The structure in (63) illustrates that the definite object DP *Hanyu* ‘Mandarin’ moves to [Spec, EP] and is then elided. $\text{Mod}_{\text{deo}}\text{P}$, containing νP , moves to [Spec, AspP_1] to check the uninterpretable [asp] feature. All the syntactic and semantic requirements are satisfied and the derivation is thus grammatical.

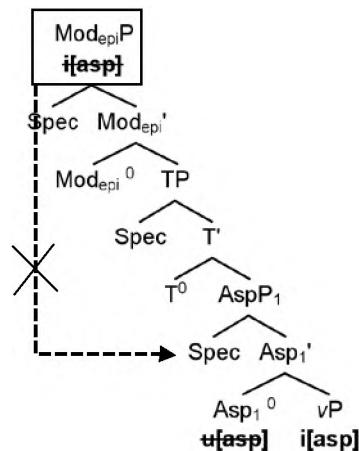
The grammatical derivations in (58-59) and (62-63) show that when more than one XP meet the requirement of movement to [Spec, EP], any of the XPs can move to [Spec, EP] and then be elided. In this case, the information structure, i.e. focus, determines which constituent to be elided. In (58), the νP that is properly governed by a deontic modal and in (62) the definite object DP is elided. Both sentences are perfectly grammatical, but they differ from each other in terms of focus. Generally, in the former, the focus falls on the modal *hui* ‘can’, whereas in the latter, the focus falls on the verb *shuo* ‘to speak’.

To sum up, this section has demonstrated that like νP , ModP in Mandarin has an interpretable [asp] feature and it therefore can move to [Spec, AspP_1] to check the uninterpretable [asp] feature. As a result, when a deontic modal occurs in a sentence, the $\text{Mod}_{\text{deo}}\text{P}$ moves to [Spec, AspP_1] to check the uninterpretable [asp] feature due to the Minimality effect. νP can move to [Spec, EP] and be then deleted.

5.4.3 The inability of epistemic modals for licensing νP ellipsis

According to the generalization of movement to [Spec, AspP_1] (cf. (54)), the epistemic ModP also bears an interpretable [asp] feature. Therefore, we would expect that it should be able to move to [Spec, AspP_1] to check the uninterpretable [asp] feature. However, as the structure in (51) shows, $\text{Mod}_{\text{epi}}\text{P}$ occurs in a position higher than AspP_1 . Within Kayne’s (1994) LCA, $\text{Mod}_{\text{epi}}\text{P}$ may not move down to [Spec, AspP_1] to check the uninterpretable [asp] feature, as illustrated in (64).

(64) The ungrammaticality of $\text{Mod}_{\text{epi}}\text{P}$ -to-[Spec, AspP_1]



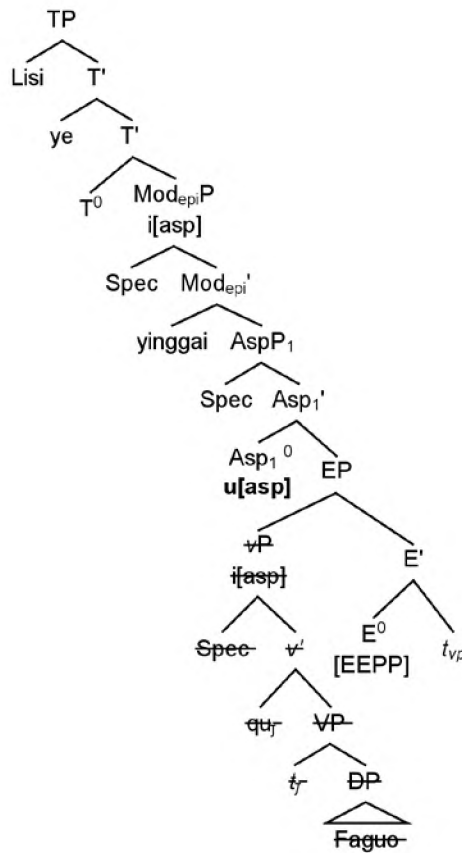
In (64), the Mod_{epi}P is above AspP₁; hence, it is not possible for Mod_{epi}P to check the uninterpretable [asp] feature of AspP₁. As a result, vP must move to [Spec, AspP₁] to check the uninterpretable feature. Consequently, vP cannot move to [Spec, EP] for ellipsis. If it was elided, the uninterpretable [asp] feature of AspP₁ would not be checked. Therefore, the derivation would crash. The ungrammaticality has been demonstrated in Section 3.2.5. I repeat the example given in (113b) in Chapter 3 and show the structure of the ungrammatical derivation below.

(65) *Zhangsan *yinggai* qu Faguo, Lisi ye *yinggai* [~~qu Faguo~~]. (Epistemic modal)

Zhangsan should go France Lisi also should go France

Intended: ‘Zhangsan should go to France and Lisi should too.’

(66) The ungrammaticality of the deletion of complements of epistemic modals

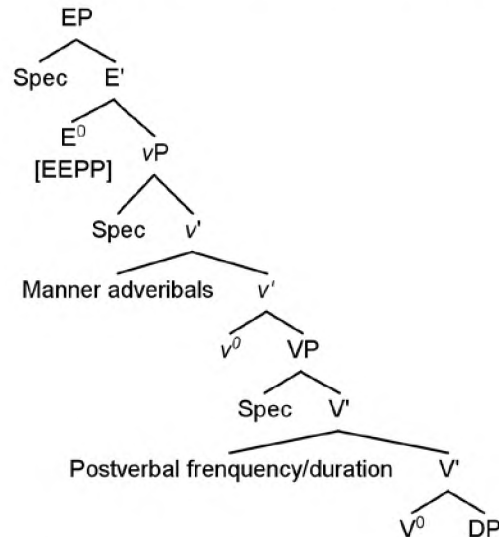


In this structure, the vP moves to [Spec, EP] and is then deleted. It leaves the uninterpretable [asp] feature unchecked as the epidemic ModP is not able to check it as illustrated in (64). Consequently, the derivation crashes owing to the requirement of Full Interpretation. This shows that the epistemic ModP occurs higher than AspP₁ and cannot check the uninterpretable [asp] feature of AspP₁. The vP must move to [Spec, AspP₁]; hence, it may not be deleted.

5.5 The impossibility of adjunct ellipsis

In Mandarin, manner adverbials and postverbal adjuncts of duration/frequency are not allowed to be deleted (Section 3.1.3). However, these adjuncts are maximal phrases in the c-command domain of EP, as illustrated in (67).

(67) The syntactic position of vP-internal preverbal adverbials and postverbal adjuncts



According to the Ellipsis EPP Hypothesis, manner adverbials and postverbal adjuncts of duration/frequency are potential candidates for moving [Spec, EP] to satisfy the EEPP feature. The question is why they are not allowed to be deleted.

Among others van Riemsdijk & Williams (1981) and Freidin (1986) observe that there exists an asymmetry between arguments and adjuncts in respect of reconstruction, as illustrated in (68).

(68) a. *[Whose characterization of *the typical male viewer*_i]_j does he_i resent *t*_j?

b. [Whose survey describing *the typical male viewer*_i]_j does he_i resent *t*_j?

(Cited from Sportiche 2001: (75))

In (68a), *the typical male viewer* is part of the complement of the fronted head NP in the *wh*-phrase and it cannot be bound by the subject owing to Condition C. In contrast, in (68b), *the typical male viewer* is part of the adjunct (i.e. the relative clause) to the fronted head N of the *wh*-phrase and it can be bound by the subject. This suggests that the moved adjunct is not subject to Condition C.

There are two approaches to account for this asymmetry between a moved argument and a moved adjunct. Lebeaux (1991, 2000) proposes that arguments and adjuncts are introduced at different points in the process of derivation. Arguments must be introduced before movement, whereas adjuncts can be inserted before or after movement. In other words, adjuncts, at least certain type of adjuncts, merge later structurally. In the spirit of Lebeaux (1991, 2000), if the manner adverbials and postverbal adjuncts of duration/frequency merge after ellipsis takes place, this would be able to explain why such adjuncts cannot be elided.

The other approach to explain the asymmetry between arguments and adjuncts makes use of *trace* left by movement (e.g. Cinque 1982, Hornstein 1984, Barss 1986, 1988 and Culicover 1997). Adverbials do not behave like arguments in respect of *trace*. While moved arguments leave a *trace* in their original position which participates in Condition C, moved adjuncts do not leave *trace*²². If an adjunct does not leave *trace* in its original position, it cannot be reconstructed. In other words, it may not be deleted as the elided constituents must be able to be reconstructed.

These two approaches, to certain extent, seem to be explanatory for the unavailability of adjunct deletion. However, a fine-grained survey is needed to find out which one is better in Mandarin, which I leave for the future research.

5.6 The impossibility of *de*-clause ellipsis

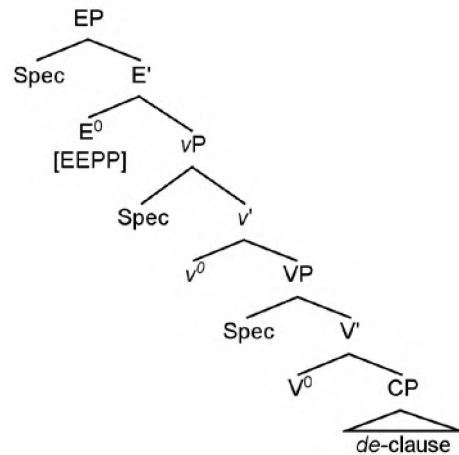
Section 5.2 has demonstrated how the ellipsis of CP and infinitive complements is derived. Like CP and infinitive complements, descriptive/resultative complements introduced by the *de*-clause are also potential candidates for satisfying the EEPP feature as they are all maximal phrases in the c-command domain of EP, as schematically represented in (69).

²² In Mandarin, manner adverbials may occur in the sentence-initial position under certain context, as illustrated in (i).

- (i) *Manmande*, Mary zou-hui le jiaoshi.
 Slowly Mary walk-back pfv classroom
 ‘Slowly, Mary walked back to the classroom.’

In (i), the manner adverbial *manmande* ‘slowly’ appears in the sentence-initial position. However, I argue that in this case, the manner adverbial is not fronted to the sentence-initial position, but is base-generated in the sentence-initial position.

(69) The syntactic structure of the *de*-clause



According to the structure in (69), descriptive/resultative complements introduced by the *de*-clause should be able to move to [Spec, EP] for ellipsis. However, for some independent reasons, the *de*-clause is not allowed to undergo movement out of the *vP* domain, which has been shown in (12b) in Section 4.1.2. I repeat the example below.

(70) **[de hen hao-ting]_i, Mary chang t_i.*
 comp very good-to-listen Mary sing
 Intended: ‘Mary sings well.’

The ungrammaticality of (70) shows that the *de*-clause may not move out of *vP* at PF. Therefore, it is not allowed to move to [Spec, EP] as EP is located in a position above *vP*. This accounts for the reason why the *de*-clause may not be elided in Mandarin.

5.7 Conclusion

Within the Ellipsis EPP Hypothesis, this chapter demonstrates how various types of ellipsis - NP ellipsis, DP ellipsis, CP-complement ellipsis, infinitive-complement ellipsis and MCE - are derived in Mandarin. The Ellipsis EPP Hypothesis states that these constituents are legitimate candidates for satisfying the EEPP feature. Moreover, they are allowed to move out of *vP* in Mandarin. As a result, they can move to [Spec, EP] to satisfy the EEPP feature. They will be deleted as soon as the EEPP feature is satisfied. The Hypothesis provides a unified analysis for the ellipsis of the various constituents in the *vP* domain. It shows that it is one single mechanism, i.e. EP that accounts for all types of ellipses in the *vP* domain.

At the same time, the Ellipsis EPP Hypothesis reveals why vP is not allowed to be deleted when it is not governed by a deontic modal on one hand; on the other hand, it can be deleted when governed by a deontic modal. When there is no deontic modal, vP is the only legitimate candidate for checking the uninterpretable [asp] feature of the higher Aspect Phrase ($AspP_1$). If it moved to [Spec, EP] for ellipsis, the uninterpretable [asp] feature would be left unchecked. This derivation is ruled out by the requirement of Full Interpretation. When there is a deontic modal, the deontic ModP, which bears an interpretable [asp] feature, moves to [Spec, $AspP_1$] to check the uninterpretable [asp] feature on $AspP_1$. As a result, vP is licensed to move to [Spec, EP] for ellipsis. In addition, the Ellipsis EPP Hypothesis also accounts for why epistemic modals cannot serve as a licenser for vP ellipsis. In Mandarin, the epistemic ModP occurs in a position higher than $AspP_1$ and it cannot check the uninterpretable [asp] feature on $AspP_1$. In this case, vP must move to [Spec, $AspP_1$] to check the uninterpretable [asp] feature and therefore it is not allowed to be deleted. The Ellipsis EPP Hypothesis also precludes the ungrammatical derivations, including the deletion of adjuncts and the *de*-clause. Adjuncts do not leave a *trace* in the original position in the way that arguments do. If an adjunct moved to [Spec, EP] and was then deleted, it could not be reconstructed; as a result, it cannot be elided. The *de*-clause in Mandarin is not allowed to move out of vP and thus cannot be elided.

The Ellipsis EPP Hypothesis yields the grammatical derivations of ellipsis in the vP domain in Mandarin and rules out the ungrammatical ones. The paradox of whether the putative VPE construction is genuine VPE is not unique to Mandarin. As I pointed out in the introduction to this thesis (Chapter 1), in Xhosa, the putative VPE construction exhibits some similar properties to its Mandarin counterpart. For instance, in both languages, the verb cannot be deleted and only certain type of objects is allowed to be deleted on the surface. Consequently, an interesting question arises: whether the Ellipsis EPP Hypothesis can account for the putative VPE construction in Xhosa. The following three chapters focus on ellipsis in the vP domain in Xhosa with comparison to the ellipsis in Mandarin.

Chapter 6 Similarities between Xhosa and Mandarin in terms of ellipsis in the vP domain

6.0 Introduction

In the Xhosa putative VPE construction, the verb remains overt on the surface, and only certain type of objects can be deleted. In this sense, it is similar to ellipsis in the vP domain in Mandarin, in which the verb and indefinite objects cannot be elided, whereas definite objects can be elided. The interesting question is whether the putative VPE construction in Xhosa is the same as that in Mandarin in which VP/vP is not elided, or it is indeed V-stranding VPE. This chapter focuses on answering this question. As it turns out, the putative VPE construction in Xhosa has the similar properties to its Mandarin counterpart. More specifically, in both languages, vP cannot be deleted and only certain type of objects can be deleted. The elided constituents are PF-deletion (i.e. ellipsis), rather than deep anaphora like *pro*-form.

This chapter is organized as follows. Section 6.1 provides a range of evidence to show that vP cannot be deleted in Xhosa. Section 6.2 inventories the elidable constituents in the vP domain. Section 6.3 demonstrates that the elided constituents are not deep anaphora, but PF-deletion. Section 6.4 provides a brief conclusion.

6.1 Non-existence of V-stranding VPE in Xhosa

Providing the analysis that the Bantu languages, namely Swahili, Ndendeule, Chingoni and Kikuyu, have V-stranding VPE (Ngonyani 1995, 1996a b, 1998, Goldberg 2005 and Ngonyani & Githinji 2006) is on the right track, it is reasonable to expect that Xhosa, being a Bantu language, might also display V-stranding VPE. In other words, we would expect that there is VPE in Xhosa in which the verb moves out of VP before VPE occurs and thus survives ellipsis. However, in this section, I provide empirical evidence to show that this assumption is not correct and that like Mandarin, VP/vP cannot be deleted in Xhosa. In other words, Xhosa does not have V-stranding VPE.

6.1.1 The stranding of the verb

Like Mandarin, the verb in Xhosa may not be deleted in the putative VPE construction. In Xhosa, Tense-Aspect-Mood marking and agreement marking are affixed to the verb; hence, it would be ungrammatical if the verb is deleted, stranding the affixes, as illustrated in (1) and (2).

(1) a. U-John u-thand-a a-ma-Apile, na-ye u-Mary u-ya-wa-*thand-a* [~~a-ma-Apile~~].
 aug-1.John sm1-like-fv aug-6-apple, and-1 aug-1.Mary sm1-dis.prs-om6-like-fv [aug-6-apples]

‘John likes apples and Mary does too.’

b. *U-John u-thand-a a-ma-Apile, na-ye u-Mary u-ya-wa-~~[thand-a]~~ ~~a-ma-Apile~~.
 aug-1.John sm1-like-fv aug-6-apple, and-1 aug-1.Mary sm1-dis.prs-om6-like-fv aug-6-apples

(2) a. U-John u-theng-e i-moto, na-ye u-Mary u-yi-theng-ile [~~i-moto~~].
 aug-1.John sm1-buy-prf aug-9.car and-1 aug-1.Mary sm1-om9-buy-dis.prf [aug-9.car]

‘John bought a car and Mary did too.’

b. *U-John u-theng-e i-moto, na-ye u-Mary u-yi-~~[theng-ile]~~ ~~i-moto~~.
 aug-1.John sm1-buy-prf aug-9.car and-1 aug-1.Mary sm1-om9-buy-dis.prf aug-9.car

In (1a) and (2a), while the object DP disappears in the target clause, the verb remains overt. In (1b) and (2b), the verb is elided, leaving the agreement and/or tense marking overt. These two sentences are completely ungrammatical.

It is crucial to note that both (1a) and (2a) are in the so-called disjoint form. Xhosa has two different syntactic forms, namely the conjoint form and the disjoint form, which are also addressed as the short form and the long form, respectively (e.g. McLaren 1955, Bennie 1953, O’Riordan 1969, Louw & Jubase 1963 and Du Plessis & Visser 1992). While the disjoint form is morphologically marked in the present tense (i.e. the prefix *ya*) and the perfect (i.e. the suffix *ile*), the conjoint form is unmarked. Taking (1a) as an example, the first conjunct is in the conjoint form and there is no morphological marking. In the second conjunct, the prefix *-ya-* occurs, indicating that this clause is in the disjoint form. In the perfect tense, the conjoint form is marked by the suffix *-e*, which is illustrated in the first clause of (2a). The disjoint form is marked by the suffix *-ile* as shown in (2b). There is no morphological distinction between these two forms in other tenses like the so-called remote past tense and the future tense, as illustrated in the following examples.

(3) a. U-Sipho w-a-theng-a i-moto. (Conjoint form in the remote past tense)
 aug-1.Sipho sm1-pst-buy-fv aug-9.car

‘Sipho bought a/the car.’

b. U-Sipho w-a-yi-theng-a i-moto. (Disjoint form in the remote past tense)
 aug-1.Sipho sm1-pst-om9-buy-fv aug-9.car

‘Sipho bought a/the car.’

(4) a. U-Sipho u-za ku-theng-a i-moto. (Conjoint form in the future tense)

aug-1.Sipho sm1-fut-buy-fv aug-9.car

‘Sipho will buy a/the car.’

b. U-Sipho u-za ku-yi-theng-a i-moto. (Disjoint form in the future tense)

aug-1.Sipho sm1-fut-om9-buy-fv aug-9.car

‘Sipho will buy a/the car.’

These two sentences in (3) are both in the remote past tense. While (3a) is in the conjoint form, (3b) in the disjoint form. There is no morphological distinction between these two sentences, but the object marker occurs in (3b). This indicates that the object is dislocated out of *vP* and the sentence must be in the disjoint form, which will be further discussed in Section 6.1.2.

In addition, while some Xhosa L1 speakers consider it unacceptable that the entire *vP* constellation - covering the verb, agreement marking, Tense-Aspect-Mood marking and the object - is elided, leaving the subject overt in the target clause, some L1 speakers think it is acceptable. The construction is illustrated below.

(5) ?U-John u-thand-a a-ma-Apile, na-ye u-Mary [~~u-thand-a a-ma-Apile~~]²³.

aug-1.John sm1-like-fv aug-6-apple, and-1 aug-1.Mary sm1-like-fv aug-6-apples

(i) ‘John likes apples and Mary does too.’

(ii) ‘John likes apples and Mary.’

²³ It is worth to note that when the entire verbal complex and the object are both deleted, the conjunction *na-ye* must precede the subject. However, when the object is deleted, without also deleting the verbal complex, the conjunction can either precede or follow the subject, as illustrated below.

(i) *U-John u-thand-a a-ma-Apile, u-Mary na-ye [~~u-thand-a a-ma-Apile~~].

aug-1.John sm1-like-fv aug-6-apple, and-1 aug-1.Mary sm1-like-fv aug-6-apples

(ii) a. U-John u-thand-a a-ma-Apile, *na-ye u-Mary* u-ya-wa-thand-a [~~a-ma-Apile~~].

aug-1.John sm1-like-fv aug-6-apple, and-1 aug-1.Mary sm1-dis.prs-om6-like-fv aug-6-apples]

‘John likes apples and Mary does too.’

b. U-John u-thand-a a-ma-Apile, *u-Mary na-ye* u-ya-wa-thand-a [~~a-ma-Apile~~].

aug-1.John sm1-like-fv aug-6-apple, aug-1.Mary and-1 sm1-dis.prs-om6-like-fv aug-6-apples]

‘John likes apples and Mary does too.’

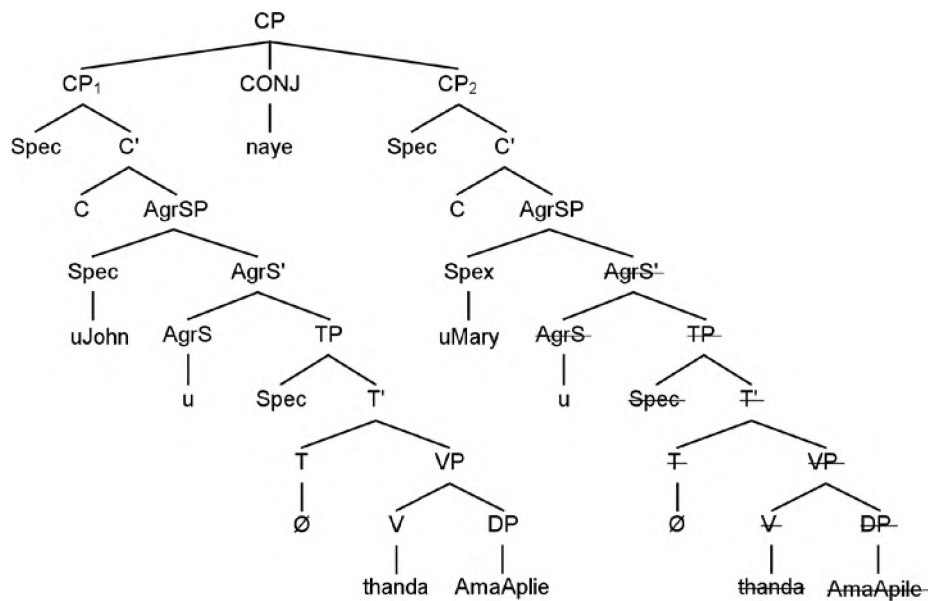
Sentence (i) illustrates that it is not grammatical that the subject precedes the conjunction *na-ye* when the whole target clause is deleted. In (ii), only the object DP is deleted, the conjunction *na-ye* can either precede (iia) or follow the subject (iib).

- (6) ?U-John w-a-theng-a i-moto, na-ye u-Mary [~~w-a-theng-a i-moto~~]
 aug-1.John sm1-pst-buy-fv aug-9.car and-1 aug-1.Mary sm1-pst-buy-fv aug-9.car
 (i) ‘John bought a car and Mary did too.’
 (ii) ‘John bought a car and Mary.’

(5) and (6) were deemed to be grammatical by some of my informants. Note that the two sentences are ambiguous. The sentence in (5) means that John and Mary like apples, or alternatively that John likes apples and Mary. (6) can be interpreted as meaning that John and Mary both bought a car, or that John bought a car and Mary in spite of semantic oddness.

Given that the construction illustrated in (5) and (6) is acceptable, I argue that this construction is not an instance of VPE. First, it is not VP, but the entire IP or CP that is deleted. The ellipsis site covers subject marking, Tense-Aspect-Mood marking and object marking. For example, apart from the verb and the object, the ellipsis site in (5) also contains the subject marker and the present tense marker which is unmarked morphologically. In (6) the ellipsis site covers the subject marker and the past tense marker. For exposition, the structure of (6) is schematically illustrated in (7).

(7)



The syntactic structure in (7) illustrates that the whole IP, including AgrSP and TP, is deleted in the target clause.

Another crucial argument against the assumption that the construction represented in (5) and (6) is VPE comes from its distribution. In languages, VPE is not only restricted to appearing in coordinate constructions, but it can also occur in other constructions as long as the syntactic and semantic requirements are met (e.g. Sag 1976 and Gribanova 2013). Taking English as an example, VPE can occur in subordinate structures (cf. (8)), relative clauses (cf. (9)) and polar questions (cf. (10)).

(8) John does not eat chicken, but Mary does [_{VP} ~~eat chicken~~].

(9) John did not buy that book, but I know the student who did [_{VP} ~~buy that book~~].

(10) Q: Has John read that book?

A: Yes, John has [_{VP} ~~read that book~~].

In (8-10), the deleted VP occurs in the disjunctive structure, relative clause and the answer of a polar question, respectively. These three sentences are well-formed in English.

However, in Xhosa, the construction represented in (5) and (6) can only occur in coordinate constructions. In disjunctive structures, relative clauses and polar questions, the verbal complex may not be deleted. If the verbal complex is deleted in such constructions, the clause either becomes ungrammatical or is inappropriate for expressing the intended meaning. The ungrammaticality is shown in the examples below.

(11) a. *U-John a-ka-yi-ty-i nkuku,
 aug-1.John neg-sm1-om9-eat-neg 9.chicken
 kodwa u-Mary [~~u-yi-ty-a~~ i nkuku].
 but aug-1.Mary sm1-om9-eat-fv aug-9.chicken
 Intended: ‘John does not eat chicken, but Mary does.’

b. U-John a-ka-yi-ty-i nkuku,
 aug-1.John neg-sm1-om9-eat-neg 9.chicken
 kodwa u-Mary u-ya-yi-ty-a [~~i nkuku~~].
 but aug-1.Mary sm1-dis.prs-om9-eat-fv aug-9.chicken
 ‘John does not eat chicken, but Mary does.’

(12) a. *U-John a-ka-yi-theng-anga la ncwadi,
 aug-1.John neg-sm1-om9-buy-neg dem.9 9.book
 kodwa ndi-ya-m-azi u-m-fundi [~~e theng e~~ la ncwadi]
 but 1sg-dis.prs-om1-know aug-1-student rel.1-buy-prf dem.9 9.book
 Intended: ‘John did not buy that book, but I know the student who did.’

b. U-John a-ka-yi-theng-anga la ncwadi,
 aug-1.John neg-sm1-om9-buy-neg dem.9 9.book
 kodwa ndi-ya-m-azi u-m-fundi o-yi-theng-ile [~~la~~—~~ncwadi~~]
 but 1sg-dis.prs-om1-know aug-1-student rel.1-om9-buy-dis.prf dem.9 9.book
 ‘John did not buy that book, but I know the student who did.’

(13) Q: U-Sipho u-yi-fund-ile le ncwadi?
 aug-1.Sipho sm1-om9-read-dis.prf dem.9 9.book
 ‘Has Sipho read this book?’

A₁: *U-Sipho [~~u-fund-e~~—~~le~~—~~ncwadi~~].
 aug-1.Sipho [sm1-read-prf dem.9 9.book]
 Intended: ‘Sipho has.’

A₂: U-Sipho u-yi-fund-ile [~~le~~—~~n-ewadi~~].
 aug-1.Sipho sm1-om9-read-dis.prf dem.9 9.book
 ‘Sipho has.’

In (11a), the entire verbal complex is deleted in the second clause of the disjunctive construction. Consequently, the sentence is ungrammatical. In this case, only the object-marked DP can be deleted (11b). In (12a), the deleted verbal complex appears in the relative clause. The second clause is not appropriate for expressing the intended meaning. It can only be interpreted as meaning that I know *a/the* student. Under this interpretation, the deleted verbal complex is not reconstructed. In other words, no verbal complex ellipsis occurs. (12b) is grammatical since only the object-marked DP is deleted and the verbal complex remains overt. Similarly, (13) shows that the verbal complex cannot be deleted in the answer of a polar question (13A₁) and only the object-marked DP can be deleted (13A₂).

The above arguments lead us to conclude that the entire verbal complex deletion illustrated in (5) and (6) is not VPE. It is interesting to find out the distribution and licensing condition of this type of ellipsis, but I will leave that for future research. In this thesis, I only focus on ellipsis in the *vP* domain. In the *vP* domain, like in Mandarin, the verb in Xhosa cannot be elided. The unavailability of verb deletion provides the possibility that the V-stranding VPE supposition may hold true in Xhosa. More specifically, the verb moves to a higher position (e.g. IP) and survives VP ellipsis. However, the following sections will show that the constituents in *vP* such as the non-object-marked object and manner adverbials cannot be elided, which suggests that *vP* cannot be deleted in Xhosa.

6.1.2 Restrictions on the object

Recall that in Mandarin, while definite objects can be deleted in the putative VPE construction, indefinite objects cannot (Section 3.1.2). Likewise, in Xhosa, not all objects can be deleted. The object can be deleted only when its object marker is prefixed to the verb. Without object marking, the object is not allowed to be deleted. For the purpose of convenience, I address the objects that are not object-marked as non-object-marked DP. Importantly, in Xhosa, while object-marked DPs move out of *v*P, non-object-marked objects must remain in *v*P. This leads us to conclude that the missing object-marked DPs are not attributed to VP ellipsis in that *v*P-internal constituents should be deleted when VPE takes place.

6.1.2.1 Deletion of object-marked DPs

One may already notice that in the grammatical examples given in Section 6.1.1, the missing objects are all object-marked, i.e. their object marker is prefixed to the verb. Indeed, in Xhosa the object can be deleted only when its object marker is attached to the verb. An object must remain overt if it is not object-marked. This contrast is illustrated in the following examples.

- (14) a. U-John u-fund-a i-si-Xhosa,
 aug-1.John sm1-study-fv aug-7-Xhosa
 na-ye u-Mary u-ya-si-fund-a [~~i-si-Xhosa~~].
 and-1 aug-1.Mary sm1-dis.prs-om7-study-fv aug-7-Xhosa
 ‘John studies Xhosa and Mary does too.’
- b. *U-John u-fund-a i-si-Xhosa, na-ye u-Mary u-fund-a [~~i-si-Xhosa~~].
 aug-1.John sm1-study-fv aug-7-Xhosa, and-1 aug-1.Mary sm1-study-fv aug-7-Xhosa
 Intended: ‘John studies Xhosa and Mary does too.’
- c. *U-John u-fund-a i-si-Xhosa, na-ye u-Mary u-ya-fund-a [~~i-si-Xhosa~~].
 aug-1.John sm1-study-fv aug-7-Xhosa, and-1 aug-1.Mary sm1-dis.prs-study-fv aug-7-Xhosa
 Intended: ‘John studies Xhosa and Mary does too.’
- (15) a. U-John u-theth-a i-si-Xhosa kakuhle,
 aug-1.John sm1-speak-fv aug-7-Xhosa well
 na-ye u-Mary u-si-theth-a [~~i-si-Xhosa~~] kakuhle.
 and-1 aug-1.Mary sm1-om7-speak-fv aug-7-Xhosa well
 ‘John speaks Xhosa well and Mary does too.’

- b. *U-John u-theth-a i-si-Xhosa kakuhle,
 aug-1.John sm1-speak-fv aug-7-Xhosa well
 na-ye u-Mary u-theth-a [~~i-si-Xhosa~~] kakuhle.
 and-1 aug-1.Mary sm1-speak-fv aug-7-Xhosa well
 Intended: ‘John speaks Xhosa well and Mary does too.’

In (14a), the disjoint form *-ya-* and the object marker *-si-* are prefixed to the verb in the target clause. Consequently, the object DP *isiXhosa* is deleted on the surface and is recovered semantically. In (14b), neither the disjoint form nor the object marker appears in the target clause and the clause is ungrammatical when the object is deleted²⁴. In (14c), *-ya-* occurs in the second conjunct and the clause itself is grammatical, but it is not appropriate for expressing the intended meaning. This clause can only be interpreted as meaning that Mary also studies without saying what she studies. Under this interpretation, no object deletion occurs since a deleted constituent must be recovered semantically. Note that in (15), the manner adverbial *kakuhle* ‘well’ occurs. In this case, the second conjunct is grammatical even it is in the conjoint form (15b), but again, it only means that Mary speaks well. The object cannot be reconstructed even though there is an antecedent in the first conjunct. This shows that without object marking, the object may not be deleted. In one word, while object-marked DPs can be deleted, non-object-marked objects must remain overt in Xhosa.

6.1.2.2 Dislocation of object-marked DPs

It is well known that object-marked DPs in Bantu languages are dislocated to a position outside *vP* (see Bresnan & Mchombo 1987, Baker 2003, Van der Spuy 1993, Adam 2010, Cheng & Downing 2009 and Zeller 2012b, 2014, 2015 among others). I would like to demonstrate here that in Xhosa an object must move out of *vP* if the object marker is prefixed to the verb but must remain inside *vP* if the object marker does not occur. This means that the deletion of object-marked DPs is not attributed to VPE.

6.1.2.2.1 The floating of object-marked DPs

The canonical word order in Xhosa is S-V-O. Without object marking, the object typically follows the verb immediately. According to my informants, the object may follow manner adverbials, but it is not allowed to move out of *vP*. For example, it is ungrammatical to front the object to a sentence-initial position for topicalization. In addition, in Xhosa the subject can float freely. It can occur either in a sentence-initial or

²⁴ In Xhosa, the verb must be followed by an overt element in the conjoint form, which will be discussed in Chapter 7 (Section 7.1).

a sentence-final position, either before or after sentential adverbials, but it may not be inserted between the verb and the object when no object marker occurs. Consider the following examples.

- (16) a. Ndi-fund-a *i-si-Xhosa* e-Rhini.
 1sg-study-fv aug-7-xhosa loc-Grahamstown
 ‘I am studying Xhosa in Grahamstown.’
- b. **I-si-Xhosa_i* ndi-fund-a *t_i* e-Rhini.
 aug-7-Xhosa 1sg-study-fv loc-Grahamstown
 Intended: ‘IsiXhosa, I am studying it in Grahamstown.’
- c. *Ndi-fund-a e-Rhini *i-si-Xhosa*.
 1sg-study-fv loc-Grahamstown aug-7-xhosa
 Intended: ‘I am studying Xhosa in Grahamstown.’
- (17) a. Ndi-theth-a *i-si-Xhosa* kakuhle.
 1sg-speak-fv aug-7-xhosa well
 ‘I speak Xhosa well.’
- b. Ndi-theth-a kakuhle *i-si-Xhosa*.
 1sg-speak-fv well aug-7-xhosa
 ‘I speak Xhosa WELL.’
- (18) a. *U-m-fundi* u-theng-e i-ncwadi i-zolo.
 aug-1-student sm1-buy-prf aug-9.book aug-5.yesterday
 ‘A/the student bought a book yesterday.’
- b. U-theng-e i-ncwadi i-zolo *u-m-fundi*.
 sm1-buy-prf aug-9.book aug-5.yesterday aug-1-student
 ‘A/the student bought a book yesterday.’
- c. U-theng-e i-ncwadi *u-m-fundi* i-zolo.
 sm1-buy-prf aug-9.book aug-1-student aug-5.yesterday
 ‘A/the student bought a book yesterday.’
- d. *U-theng-e *u-m-fundi* i-ncwadi i-zolo.
 sm1-buy-prf aug-1-student aug-9.book aug-5.yesterday
 Intended: ‘A/the student bought a book yesterday.’

In (16), no object marker appears and the three sentences are all in the conjoint form. (16a) presents the typical word order in which the object *isiXhosa* ‘Xhosa’ follows the verb immediately. In (16b), the object is fronted to the sentence-initial position and in (16c) the locative *eRhini* ‘in Grahamstown’ is inserted

between the verb and the object. As a result, neither of the two sentences is grammatical. In (17), the two sentences are in the conjoint form and the object marker does not appear. (17a) presents the typical word order in which the object precedes the manner adverbial. In (17b), the object follows the manner adverbial. According to my informants, this sentence is also grammatical. Providing manner adverbials are located in vP in language, although the object follows the manner adverbial, it still remains in vP which will be confirmed by the prosodic evidence in the following subsection (Section 6.1.2.2.2). In (18a-c), the subject appears in the sentence-initial position, the sentence-final position and before the temporal adverbial *izolo* ‘yesterday’, respectively. These three sentences are all grammatical. However, in (18d), the subject is inserted between the verb *thetha* ‘to speak’ and the object *isiXhosa* ‘Xhosa’. This sentence is thus ungrammatical.

In contrast, when the object marker occurs, an object DP can be reordered freely. For instance, it can appear either in the sentence-final position or the sentence-initial position, either before or after sentential adverbials, as illustrated in (19).

- (19) a. U-Sipho u-yi-cul-ile *i-ngoma* i-zolo.
 aug-1.Sipho sm1-om9-sing- dis.prf aug-9.song aug-5.yesterday.
 ‘Sipho sang the song yesterday.’
- b. *I-ngoma* u-Sipho u-yi-cul-ile i-zolo.
 aug-9.song aug-1.Sipho sm1-om9-sing- dis.prf aug-5.yesterday.
 ‘Sipho sang the song yesterday.’
- c. U-Sipho u-yi-cul-ile i-zolo *i-ngoma*.
 aug-1.Sipho sm1-om9-sing- dis.prf aug-5.yesterday aug-9.song
 ‘Sipho sang the song yesterday.’
- d. U-yi-cul-ile u-Sipho *i-ngoma* i-zolo.
 sm1-om9-sing- dis.prf aug-1.Sipho aug-9.song aug-5.yesterday.
 ‘Sipho sang the song yesterday.’

The object marker *yi* is prefixed to the verb in (19). Consequently, the object DP can occur either in the sentence-initial position (19b) or the sentence-final position (19c). In (19d), the subject *uSipho* is inserted between the verb and the object. In comparison with (18d), this sentence is completely grammatical. Here it shows that without object marking, the object must follow the verb or follow manner adverbials, and that it may not move out of vP. With object marking, the object can float freely. This suggests that object-marked DPs are allowed to move out of vP.

6.1.2.2.2 Prosodic boundary between verbs and object-marked DPs

Another important argument for the dislocation of object-marked DPs comes from prosodic evidence. The Prosodic Phrasing Generalization in edge-based alignment theory (Selkirk 1984, 1995, 2000 and Truckenbrodt 1995, 1999, 2005, 2007) states that the edge of a syntactic constituent (XP or CP) must coincide with the edge of a corresponding prosodic constituent. In addition, the Phase Condition on prosodic phrasing (An 2007, Kratzer & Selkirk 2007, Ishihara 2007 and Kahnemuyipour 2004, 2008) claims that the prosodic phrasing can be conditioned by phases: *vP* and *CP*. In line with these two frameworks, Cheng & Downing (2009) propose that in Zulu, if a constituent is parsed into a separate prosodic phrase from the element at the right edge, it must be encoded in a different syntactic phrase from the preceding constituent. To put it differently, at the right edge, there is a one-to-one correspondence between a syntactic phrase and a prosodic phrase. In Zulu, the boundary between two prosodic phrases is marked by a lengthened penultimate vowel (Van der Spuy 1993, Buell 2005, Cheng & Downing 2009 and Zeller 2012b among others). Therefore, the lengthened penultimate vowel functions as the boundary of two syntactic phrases as well, as shown in the following example.

- (20) Q: Ba-m-nik-e:-ni) u-Si:pho)?
 sm2-om1-give-prf-what aug-1.Sipho
 ‘What did they give to Sipho?’
A: Ba-m-nik-e i-ma:li) u-Si:pho).
 sm2-om1-give-prf aug-9.money aug-1.Sipho
 ‘They gave money to Sipho.’ [Zulu, Cheng & Downing 2014: (3)]

In (20Q), the lengthened penultimate vowel of the verbal complex indicates that the object-marked DP *uSipho* is parsed in a different prosodic and syntactic phrase from the verbal complex. Similarly, in the reply (20A), the lengthened penultimate vowel of the direct object *imali* implies that the object-marked indirect object *uSipho* is parsed separately from the preceding constituent. These observations support the proposition that the object-marked DP *uSipho* and the verbal complex are encoded in separate syntactic phrases.

In a detailed study on prosodic phrasing in Xhosa Jokweni (1995) shows that a prosodic boundary occurs between the verbal complex and the object DP if the object marker appears, as illustrated in the following examples.

- (21) a. U-Sipho u-fund-a i-si-Xho:sa).
 aug-1.Sipho sm1-study-fv aug-7-xhosa
 ‘Sipho studies Xhosa.’
- b. *U-Sipho u-fu:nd-a) i-si-Xho:sa).
 aug-1.Sipho sm1-study -fv aug-7-Xhosa
- (22) a. U-Sipho u-ya-si-the: th-a) i-si-Xho:sa).
 aug-1.Sipho sm1-dis.prs-om7-speak-fv aug-7-Xhosa
 ‘Sipho speaks isiXhosa.’
- b.*U-Sipho u-ya-si-theth-a) i-si-Xho:sa).
 aug-1.Sipho sm1-dis.prs-om7-speak-fv aug-7-Xhosa

Note that no object marker occurs in these two sentences in (21). In (21a), the penultimate vowel of *isiXhosa* is lengthened, whereas the one in the verbal complex *ufunda* is not. This shows that there is no prosodic boundary between the object and the verbal complex, meaning the two expressions are parsed into one single prosodic phrase. Without object marking, the verb and the object cannot be parsed separately and therefore the sentence in (21b) is not felicitous as the penultimate vowel of the verbal complex *ufunda* is lengthened. In contrast, in (23), the object marker *si* is attached to the verb. Consequently, the penultimate vowel of the verbal complex must be lengthened (22a); otherwise, it is not felicitous (22b). This indicates that the object-marked DP *isiXhosa* must be parsed into a separate prosodic phrase from the verbal complex. Providing Cheng & Downing’s (2008, 2012) generalization on the relation between prosodic and syntactic phrases is on the right track, this suggests that the object-marked DP and the verbal complex are encoded into different syntactic phrases.

The preceding section illustrated that without object marking, the object can follow manner adverbials (cf. (17)). In this case, the verbal complex, manner adverbial and object must be parsed into one single prosodic phrase, as shown in (23) below.

- (23) a. Ndi-theth-a kakuhle i-si-Xho:sa).
 1sg-speak-fv well aug-7-xhosa
 ‘I speak Xhosa WELL.’
- b. *Ndi-theth-a kaku:hle) i-si-Xho:sa).
 1sg-speak-fv well aug-7-xhosa
 ‘I speak Xhosa WELL.’

(23) shows that no prosodic boundary is allowed between the manner adverbial and the object, which indicates that the object, manner adverbial and verbal complex are encoded into one single syntactic phrase, i.e. *vP*.

6.1.2.2.3 Reordering of objects in Double Object constructions

The word order in Double Object constructions provides another argument for dislocation of object-marked DPs. Zeller (2012b) observes that in Zulu, without object marking, the word order in a Double Object construction is S-V-IO-DO. However, when the indirect object (IO) is object-marked, it must follow the direct object (DO). Consequently, the word order becomes S-OM_{IO}-V-DO-IO. Xhosa exhibits the same characteristic as Zulu in this aspect, as illustrated in (24).

- (24) a. U-John u-nik-e *a-ba-ntwana* *i-mali*.
 aug-1.John sm1-give-prf aug-2-child agu-9.money
 ‘John gave children money.’
- b. *U-John u-nik-e *i-mali* *a-ba-ntwana*.
 aug-1.John sm1-give-prf aug-9.money aug-2-child
- c. U-John u-*ba*-nik-e *i-mali* *a-ba-ntwana*.
 aug-1.John sm1-om2-give-prf aug-9.money aug-2-child
 ‘John gave the children money.’
- d. *U-John u-*ba*-nik-e *a-ba-ntwana* *i-mali*.
 aug-1.John sm1-om2-give-prf aug-2-child aug-9.money

In (24a) and (24b), there is no object marker. The IO *abantwana* ‘children’ must precede the DO *imali* ‘money’ (24a) and it is ungrammatical if DO precedes IO (24b). In contrast, in (24c) and (24d), the object marker of the IO *abantwana* ‘children’ is prefixed to the verb. Consequently, the IO must follow the DO (24c); otherwise, the sentence becomes ungrammatical (24d). The ungrammaticality of (24b) suggests that without an object marker, the object must remain the argument position. The ungrammaticality of (24d) suggests that an object-marked DP must be dislocated from the argument position.

To sum up, the floating of object-marked DPs, the prosodic boundary and the compulsory reordering of Double Object constructions indicate that object-marked DPs in Xhosa move out of *vP*, whereas without object marking, the objects are parsed into the same prosodic and syntactic phrase as the verb. This shows that the missing object-marked DPs in the putative VPE construction are not involved VP ellipsis as they

already move out of ν P compulsorily. More importantly, the unavailability of the deletion of non-object-marked objects leads us to conclude that ν P is not deleted in the putative VPE construction. If it is deleted, such objects should be deleted as well since they remain in ν P compulsorily.

6.1.3 Unavailability of manner adverbial deletion

Another important test for VPE is whether manner adverbials can be deleted or not. As shown in Section 3.1.3, manner adverbials cannot be deleted in Mandarin putative VPE constructions. In what follows, I demonstrate that manner adverbials may not be deleted in Xhosa either.

Bantu languages are well-known for their relatively free word order. In Xhosa, although adverbials can appear in various positions in structural terms, the distribution of adverbials is subject to certain restrictions. In particular, sentential-adverbials typically occur in the IP domain and ν P-adverbials such as manner adverbials appear in the ν P domain. Consider the following examples.

- (25) a. *Ngelishwa* u-Mary a-ka-qond-i le mi-buzo.
 unfortunately aug-1.Mary neg-sm 1-understand-neg dem.4 4-question
 ‘Unfortunately, Mary does not understand these questions.’
- b. U-Mary a-ka-qond-i le mi-buzo *ngelishwa*.
 aug-1.Mary neg-sm 1-understand-neg dem.4 4-question unfortunately
- c. *U-Mary a-ka-qond-i *ngelishwa* le mi-buzo.
 aug-1.Mary neg-sm 1-understand-neg unfortunately dem.4 4-question
- (26) a. Ba-phath-a u-Sipho *kakubi*.
 3pl-treat-fv aug-1.Sipho badly
 ‘They treat Sipho badly’
- b. Ba-phath-a *kakubi* u-Sipho.
 3pl-treat-fv badly aug-1.Sipho
- c. **Kakubi* ba-phath-a u-Sipho.
 badly 3pl-treat-fv aug-1.Sipho
- (27) a. A-ba-fundi b-enz-e u-m-sebenzi *kakuhle msinya*.
 aug-2-student sm2-do-prf aug-3-work well fast
 ‘The students did work well and fast.’

- b. A-ba-fundi b-enz-e u-m-sebenzi *msinya kakuhle*.
 aug-2-student sm2-do-prf aug-3-work fast well
- c. **Msinya* a-ba-fundi b-enz-e u-m-sebenzi *kakuhle*.
 fast aug-2-student sm2-do-prf aug-3-work well
- d. **Kakuhle* a-ba-fundi b-enz-e u-m-sebenzi *msinya*.
 well aug-2-student sm2-do-prf aug-3-work fast

The sentences in (25) illustrate that the sentence-adverbial *ngelishwa* ‘unfortunately’ can appear either in the sentence-initial position (25a) or in the sentence-final position (25b), but it cannot occur between the verbal complex and the object (25c). The ungrammaticality of this shows that the sentence-adverbial cannot occur in vP. In (26), the manner adverbial *kakubi* ‘badly’ can appear either after (26a) or before the object *uSipho* (26b). In these two sentences, like the example (24), the manner adverbial *kakubi* ‘badly’ is encoded in one single prosodic and syntactic phrase, i.e. vP. In contrast, the sentence becomes ungrammatical when the manner adverbial appears in the sentence-initial position (26c). In (27), these two manner adverbials *msinya* ‘quickly’ and *kakuhle* ‘well’ can either precede or follow each other, but they cannot move out of vP. It should be pointed out that all the sentences are in the conjoint form. Consequently, here, it shows that manner adverbials are located in the vP domain in the conjoint form. This is significant in that if vP ellipsis takes place, manner adverbials must be elided.

As already presented in the literature review chapter (Section 2.4), although the literature (e.g. Ngonyani 1995, 1996a, b and Goldberg 2005) considers the deletion of manner adverbials as one of the arguments for supporting the V-stranding VPE analysis, this argument is problematic as the deleted adverbials cannot be recovered semantically. This is confirmed by the Xhosa data. In Xhosa, manner adverbials are not deleted, as illustrated in (28-29).

- (28) a. U-John u-theth-a i-si-Xhosa *kakuhle*,
 aug-1.John sm1-speak-fv aug-6-Xhosa well,
 na-ye u-Mary u-si-thetha *kakuhle* [~~i-si-Xhosa~~].
 and-1 aug-1.Mary sm1-om6-speak-fv well aug-6-xhosa
 ‘John speaks Xhosa well and Mary does too.’
- b. *U-John u-theth-a i-si-Xhosa *kakuhle*,
 aug-1.John sm1-speak-fv aug-6-xhosa well,
 na-ye u-Mary u-si-thetha [~~kakuhle~~—i si Xhosa].
 and-1 aug-1.Mary sm1-om6-speak-fv well aug-6-Xhosa

Intended: ‘John speaks Xhosa well and Mary does too.’

- c. *U-John u-theth-a i-si-Xhosa *kakuhle*,
aug-1.John sm1-speak-fv aug-6-xhosa well,
na-ye u-Mary u-ya-si-theth-a [~~kakuhle i si Xhosa~~].
and-1 aug-1.Mary sm1-dis.prs-om6-speak-fv well aug-6-Xhosa
Intended: ‘John speaks Xhosa well and Mary does too.’

- (29) a. U-John u-beth-e u-m-twana *nge-ntonga*,
aug-1.John sm1-beat-prf aug-1-child by-9.stick,
na-ye u-Peter u-m-beth-e *nge-ntonga* [~~u-m-twana~~].
and-1 aug-1.Peter sm1-om1-beat-prf by-9.stick aug-1-child
‘John beat a child with a stick and Peter did too.’

- b. *U-John u-beth-e u-m-twana *nge-ntonga*,
aug-1.John sm1-beat-prf aug-1-child by-9.stick,
na-ye u-Peter u-m-beth-e [~~nge-ntonga u-m-twana~~].
and-1 aug-1.Peter sm1-om1-beat-prf by-9.stick aug-1-child
Intended: ‘John beat a child with a stick and Peter Peter did too.’

- c. *U-John u-beth-e u-m-twana *nge-ntonga*,
aug-1.John sm1-beat-prf aug-1-child by-9.stick,
na-ye u-Peter u-m-beth-ile [~~nge-ntonga u-m-twana~~].
and-1 aug-1.Peter sm1-om1-beat-dis.prf by-9.stick aug-1-child
Intended: ‘John beat a child with a stick and Peter did too.’

Note that in (28a) while the object-marked DP *isiXhosa* is deleted, the manner adverbial *kakuhle* ‘well’ is not. The second conjunct means that Mary also speaks isiXhosa WELL. In (28b), both the object and the manner adverbial are deleted. This sentence is ungrammatical since the conjoint form requires an overt element to follow the verb. In (28c), the disjoint formative *-ya-* occurs; hence, the second conjunct itself is grammatical, but it is not licit to express the intended meaning. It can only be interpreted as meaning that Mary speaks Xhosa, regardless of whether she speaks it WELL or BADLY. Likewise, in (29), in order to express the meaning that Peter used a stick to beat the/a child, the preposition phrase *ngentonga* ‘with a stick’ must remain overt (29a). In (29b), *ngentonga* ‘with a stick’ is deleted. This clause only means that Peter beat the/a child, but he did not necessarily use a stick. Under this interpretation, there is no manner adverbial deletion involved. This suggests that manner adverbials may not be deleted in Xhosa.

Before reaching the conclusion, it should be pointed out that in polar questions, when the question is in the conjoint form, manner adverbials cannot be deleted in the corresponding answer. Interestingly, when the question is in the disjoint form, some L1 speakers consider it acceptable that manner adverbials do not appear in the answer. The contrast is illustrated in (30) and (31).

- (30) Q: U-si-theth-a kakuhle i-si-Xhosa?
 2sg-om7-speak-fv well aug-7-Xhosa
 ‘Do you speak Xhosa WELL?’
- A₁: Ndi-si-theth-a kakuhle [e].
 1sg-om7-speak-fv well
 ‘I speak (Xhosa) WELL.’
- A₂: *Ndi-si-theth-a [e].
 1sg-om7-speak-fv
 Intended: ‘I speak (Xhosa) WELL.’
- A₃: *Ndi-ya-si-theth-a [e].
 1sg-dis.prs-om7-speak-fv
 Intended: ‘I speak (Xhosa) WELL.’
- A₄: *Ndi-ya-si-theth-a kakuhle [e].
 1sg-dis.prs-om7-speak-fv well
 Intended: ‘I speak (Xhosa) WELL.’
- (31) Q: U-ya-si-theth-a kakuhle i-si-Xhosa?
 2sg-dis.prs-om7-speak-fv well aug-7-Xhosa
 ‘Do you SPEAK Xhosa well?’
- A₁: Ndi-ya-si-theth-a kakuhle [e].
 1sg-dis.prs-om7-speak-fv well
 ‘I SPEAK Xhosa well.’
- A₂: *Ndi-si-theth-a kakuhle [e].
 1sg-om7-speak-fv well
 Intended: ‘I SPEAK (Xhosa) well.’
- A₃: ?? Ndi-ya-si-theth-a [e].
 1sg-dis.prs-om7-speak-fv
 ‘I SPEAK (Xhosa).’

The question in (30) is in the conjoint form and the focus of this question falls on the manner adverbial. It enquires whether the hearer speaks Xhosa WELL or BADLY. Consequently, in the answer, the manner adverbial *kakuhle* ‘well’ must remain overt (30A₁). In (30A₂), the manner adverbial is deleted. This sentence is ungrammatical since no element follows the verb in the conjoint form. The sentence in (30A₃) is grammatical, but it is not appropriate for answering this question. This sentence can only be interpreted as meaning that the speaker speaks Xhosa without indicating whether s/he speaks well. In (30A₄), although the manner adverbial occurs overtly, this sentence is not appropriate for answering this question either as it is in the disjoint form. In contrast, the question in (31) is in the disjoint form. The focus of this question falls on the verb, i.e. whether the hearer SPEAKS (not write) Xhosa well. In this case, the answer must also be in the disjoint form. Therefore, the sentence in (31A₁), where the focus falls on the verb, is perfectly appropriate for answering this question, however, (31A₂) is inappropriate for answering this question in that the focus falls on the adverbial in the conjoint form. Some L1 speakers consider the sentence in (31A₃) acceptable for replying this question. However, this sentence means that the speaker SPEAKS Xhosa, and the manner adverbial is not able to be reconstructed. That is to say, no manner adverbial deletion is involved in this sentence and the acceptability is attributed to the focus of the question. I will provide a detailed discussion about the focus in the disjoint form and in the conjoint form in Chapter 7 (Section 7.2). What is concerned here is that manner adverbials are not able to be reconstructed, i.e. they cannot be deleted in the putative VPE construction in Xhosa.

In summary, like in Mandarin, manner adverbials cannot be deleted in Xhosa. Providing the analysis that in the conjoint form manner adverbials occur in the *vP* domain is on the right track, the unavailability of manner adverbials deletion indicates that *vP* cannot be deleted in Xhosa.

6.1.4 Asymmetry in Double Objects constructions

Ngonyani (1995) argues that Swahili and Ndendeule do not have double object markers, but in Double Object construction, the indirect object and direct object can be deleted at the same time. Based on this observation, Ngonyani concludes that the missing indirect and direct object cannot be attributed to the Null Object construction. The Null Object (e.g. *pro*) can occur only when the object marker appears. Like Swahili and Ndendeule, Xhosa does not allow double object markers. In the Double Object construction, either the object marker of an indirect object or the object marker of a direct object can be prefixed to the verb, but it is ungrammatical if both object markers are attached to the verb, as illustrated in (32).

- (32) a. U-Langa u-*m*-phek-el-e i-nyama u-Sipho
 aug-1.Langa sm1-om1-cook-appl-prf aug-9.meat aug-1.Sipho
 ‘Langa cooked meat for Sipho.’
- b. U-Langa u-*yi*-phek-el-e u-Sipho i-nyama
 aug-1.Langa sm1-om9-cook-appl-prf aug-1.Sipho aug-9.meat
 ‘Langa cooked meat for Sipho.’
- c. *U-Langa u-*m-yi*-phek-el-e i-nyama u-Sipho
 aug-1.Langa sm1-om1-om9-cook-appl-prf aug-9.meat aug-1.Sipho
- d. *U-Langa u-*yi-m*-phek-el-e i-nyama u-Sipho
 aug-1.Langa sm1-om9-om1-cook-appl-prf aug-9.meat aug-1.Sipho

In (32a), the object marker of the indirect object *-m-* and in (32b) the object marker of the direct object *-yi-* are prefixed to the verb, respectively. Both sentences are well-formed. In (32c) and (32d), these two object markers appear at the same time. Consequently, these sentences are not grammatical. This shows that in Xhosa, only one object marker is allowed to be prefixed to the verb.

The object-marked DP, either the direct object or the indirect object, can be elided, leaving the other object overt, as shown in (33).

- (33) a. U-Langa u-phek-el-a u-Sipho i-nyama,
 aug-1.Langa sm1-cook-appl-fv aug-1.Sipho aug-9.meat
 na-ye u-Mbali u-*m*-phek-el-a i-nyama [~~u-Sipho~~].
 and-1 aug-1.Mbali sm1-om1-cook-appl-fv aug-9.meat aug-1.Sipho
 ‘Langa cooks meat for Sipho and Mbali also cooks meat (for Sipho).’
- b. U-Langa u-phek-el-a u-Sipho i-nyama,
 aug-1.Langa sm1-cook-appl-fv aug-1.Sipho aug-9.meat
 na-ye u-Mbali u-*yi*-phek-el-a uSipho [~~i-nyama~~]
 and-1 aug-1.Mbali sm1-om9-cook-appl-fv aug-1.Sipho aug-9.meat
 ‘Langa cooks meat for Sipho and MBali also cooks (meat) for Sipho.’

In (33a), the indirect object *uSipho* is object-marked. Consequently, it is deleted in the second clause. In (33b), the direct object *inyama* ‘meat’ is object-marked in the second clause and it is deleted. This confirms the conclusion reached in Section 6.1.2 that object-marked DPs can be deleted, however, I have already

shown that the deletion of object-marked DPs is not attributed to VPE since they move out of ν P compulsorily.

Assuming VPE takes place, both objects should be elided simultaneously. More particularly, the object(s) that remain in ν P must be elided. In Xhosa, the direct object and the indirect object can both be missing in the target clause, however, the missing objects are not necessarily recovered semantically when they are not object-marked. Consider the following examples.

- (34) a. *U-Langa u-phek-el-a u-Sipho i-nyama,
 aug-1.Langa sm1-cook-appl-fv aug-1.Sipho aug-9.meat
 na-ye u-Mbali u-phek-el-a [~~u-Sipho~~—~~i-nyama~~].
 and-1 aug-1.Mbali sm1-cook-appl-fv aug-1.Sipho aug-9.meat
 Intended: ‘Langa cooks meat for Sipho and Mbali does, too.’
- b. U-Langa u-phek-el-a u-Sipho i-nyama,
 aug-1.Langa sm1-cook-appl-fv aug-1.Sipho aug-9.meat
 na-ye u-Mbali u-ya-phek-el-a [~~u-Sipho~~—~~i-nyama~~].
 and-1 aug-1.Mbali sm1-dis.prs-cook-appl-prf aug-1.Sipho aug-9.meat
 ‘Langa cooks meat for Sipho and Mbali also cooks.’
- (35) a. *U-John u-nik-a a-ba-twana i-mali,
 aug-1.John sm1-give-fv aug-2-child aug-9.money
 na-ye u-Mary u-nik-a [~~i-mali~~—~~a-ba-twana~~].
 and-1 aug-1.Mary sm1-give-fv aug-9.money aug-2-child
 Intended: ‘John gives children money and Mary does too.’
- b. U-John u-nik-a a-ba-twana i-mali,
 aug-1.John sm1-give-fv aug-2-child aug-9.money
 na-ye u-Mary u-ya-nik-a [~~i-mali~~—~~a-ba-twana~~].
 and-1 aug-1.Mary sm1-dis.prs-give-fv aug-9.money aug-2-child
 ‘John gives children money and Mary also gives (somebody something).’

Note that the sentence in (34a) and (35a) is ungrammatical as the indirect and direct object are both deleted in the second conjunct. If VPE took place, we would expect that both objects should be deleted in that without object marking, the object must remain in ν P in the conjoint form. The ungrammaticality of the two sentences suggests that VP is not allowed to be elided in such sentences. In contrast, the second conjunct of (34b) and (35b) is grammatical since they are in the disjoint form. However, the missing objects are not

necessarily reconstructed. Taking the second conjunct in (34b) as an example, unlike the first conjunct, it only means that Mbali has the habit of cooking or that Mbali is cooking, but does not refer to what she is cooking for whom.

More interestingly, Zeller (2015) observes that in Zulu, when both the indirect and direct object are dislocated in Double Object constructions, the indirect object (i.e. the beneficiary/goal) must be object-marked and the direct object (i.e. the theme) can no longer be object-marked. The same asymmetry exists in Xhosa. When neither of the two objects occurs overtly in a Double Object construction, the indirect object must be object-marked; otherwise, the sentence becomes ungrammatical. The asymmetry is illustrated in (36) and (37).

(36) a. U-Langa u-phek-el-a u-Sipho i-nyama,
 aug-1.Langa sm1-cook-appl-fv aug-1.Sipho aug-9.meat
 na-ye u-Mbali u-ya-*m*-phek-el-a [e].
 and-1 aug-1.Mbali sm1-dis.prs-om1-cook-appl-fv
 ‘Langa cooks meat for Sipho and MBali also cooks (for Sipho).’

b. *U-Langa u-phek-el-a u-Sipho i-nyama,
 aug-1.Langa sm1-cook-appl-fv aug-1.Sipho aug-9.meat
 na-ye u-Mbali u-ya-*yi*-phek-el-a [e].
 and-1 aug-1.Mbali sm1-dis.prs-om9-cook-appl-fv

Intended: ‘Langa cooks meat for Sipho and Mbali also cooks (meat) (for Sipho/someone else).’

(37) a. U-John u-nik-a a-ba-twana i-mali,
 aug-1.John sm1-give-fv aug-2-child aug-9.money
 na-ye u-Mary u-ya-*ba*-nik-a [e].
 and-1 aug-1.Mary sm1-dis.prs-om2-give-fv
 ‘John gives children money and Mary also gives (children) (money/something else).’

b. *U-John u-nik-a a-ba-twana i-mali,
 aug-1.John sm1-give-fv aug-2-child aug-9.money
 na-ye u-Mary u-ya-*yi*-nik-a [e].
 and-1 aug-1.Mary sm1-dis.prs-om9-give-fv

Intended: ‘John gives children money and Mary also gives (children/somebody else) money.’

Note that in (36a), no object DP occurs in the second conjunct. The object marker of the indirect object appears, and this sentence is thus grammatical. By contrast, in (36b), the object marker of the direct object

occurs, and this sentence becomes ungrammatical. Likewise, (37) confirm that the object marker of the indirect object must occur when both objects are missing.

The asymmetry between the direct and indirect object marking is unexpected under the V-stranding VPE assumption. If it is Verb-stranding VPE in which the verb moves out of vP , and the remnant of vP is elided, (36b) and (37b) should be grammatical. This suggests that the missing objects are not attributed to VPE. The second conjunct of (36b) and (37b) would be grammatical if the object marker *yi* refers to some indirect object (i.e. the beneficiary/goal). It is interesting to explore this issue, owing to the scope of this thesis, I will leave it open for future research. Here, the point that has been made is the unavailability of reconstruction of missing objects and the asymmetry between the direct and indirect object indicate that missing objects in Double Object construction are not attributed to VP ellipsis.

6.1.5 V head-movement in Xhosa

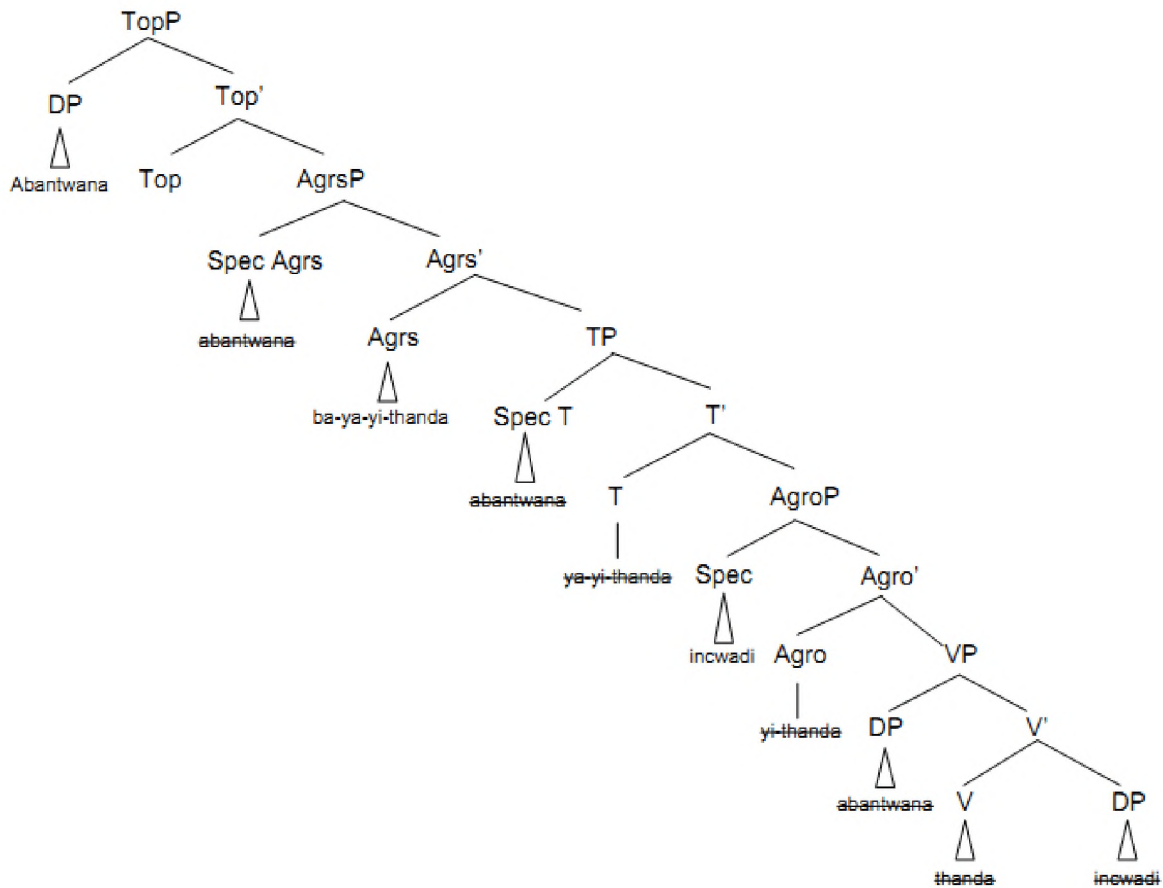
Since the verb cannot be deleted on the surface, if the putative VPE construction is genuine VPE, then it must be V-stranding VPE. As I have already demonstrated in Chapter 2, the premise of V-stranding VPE is that the verb moves out of vP , typically to T^0 , before VPE takes place. However, this section provides a range of evidence to show that the verb in Xhosa does not move to as high as TP. Instead, within Kayne's (1994) LCA, I argue that the verb remains in the vP domain in Xhosa. This means that V-stranding VPE is not tenable in Xhosa.

6.1.5.1 Against V^0 -to- T^0

Many studies claim that in Bantu languages, the verb raises to the topmost head of IP to check the inflectional features via head movement (e.g. Ndayiragije 1999 for Kirundi; Ngonyani 1995, 1996a, b and Goldberg 2005 for Swahili and Ndendeul; Ngonyani & Githinji 2006 for Kikuyu and Chingoni; Zerbian 2006 for Northern Sotho and Carstens 2005 for Bantu in general). In Xhosa, it has also been assumed that V^0 moves to T^0 or $AgrS^0$ by some linguists. For example, Smouse (2013) assumes that the verb raises to T^0 and then to $AgrS^0$, leaving a trace inside VP. This is schematically represented in (38).

- (38) a. A-ba-twana ba-ya-yi-thand-a i-ncwadi.
aug-2-child sm2-dis.prs-om9-like-fv aug-9.book
'The children like the book.'

b.



(Smouse 2013: Figure 3)

According to the structure in (38b), the verb in Xhosa moves to AgrSP by head-movement cyclically.

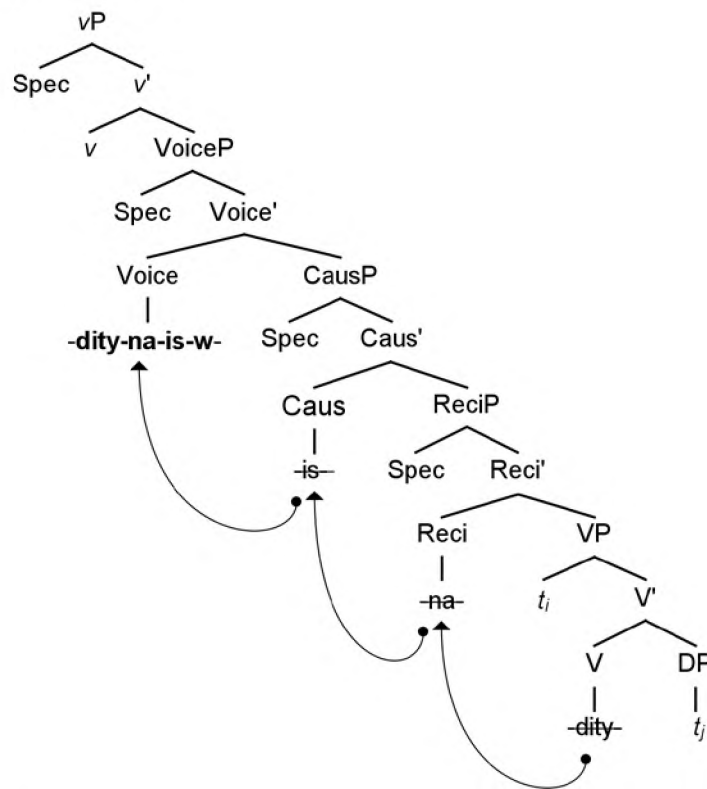
However, the assumption that the verb in Zulu moves to the topmost head of IP has been challenged by many linguists (Julien 2002, Buell 2005 and Cheng & Downing 2012 among others). The main argument against V^0 -to- T^0 /AgrS⁰ is the distribution of the affixes. While the derivational morphemes are suffixed to the verb, and the inflectional morphemes are prefixed to the verb (Cheng & Downing 2012). Following those studies, in what follows, I provide a set of arguments to show that like Zulu, in Xhosa V^0 does not raise to T^0 /AgrS⁰.

Like Zulu, in Xhosa, derivational morphemes such as the causative and applicative, and the perfect marker are suffixed to V^0 , whereas other inflectional morphemes including agreement marking and tense marking are prefixed to the verb. For example, in (38), the subject marker *ba*, the disjoint marker in the present tense *ya* and the object marker *yi* are prefixed to the verb. In comparison with (38), the sentence (39) illustrates that derivational morphemes and the perfect marker are suffixed to the verb.

- (39) U-John no-Sipho ba-dity²⁵-an-is-w-e ngu-Mary.
 aug-1.John and-1.Sipho sm2-meet-reci-caus-pass-prf by-1.Mary
 ‘John and Sipho were made to meet each other by Mary.’

In (39), while the subject marker is prefixed to the verb, the reciprocal, causative, passive and the perfect marker are all suffixed to the verb. Furthermore, the distribution of derivational morphemes is subject to Kayne’s (1994) LCA and Baker’s (1985) Mirror Principle. A moved head lands at the left of the higher head that c-commands it. This is schematically represented in (40).

- (40) [_{Voice} [_{Caus} [_{Reci} [_{V⁰} diba] na] is] w]]



In (40), the verb *dibana* ‘to meet’ is first reciprocalized, which renders the two participants *John* and *Sipho* play the role of agent and patient with each other and then the amalgamated verb is causativized, providing an agent who causes *John* and *Sipho* to meet each other. Lastly, it is passivized. This shows that the causative scopes over the reciprocal and the passive scopes over the causative, which corresponds to the morphological order $V_{\text{root}}\text{-reci-caus-pass}$. The configuration of the derivational morphemes conforms to

²⁵ The verb is *dibana* ‘to meet’. The labial sound *b* is changed into the palatal sound *ty* when it is passivized.

Baker's (1985) Mirror Principle (see Good 2005 for more details about the distribution of derivational morphemes in Xhosa²⁶).

Providing the head movement of the verb in Xhosa continues to move to T^0 /AgrS⁰, following Kayne's LCA and Baker's Mirror Principle, inflectional morphemes should be attached to the right of the verb in the way that derivational morphemes are distributed. However, in Xhosa while the perfect marker is suffixed to the verb, agreement marking and tense marking like the past and future tense must be prefixed to the verb, as illustrated in (41).

- (41) a. U-John *u-ba-fund-is-ile* a-ba-fundi.
 aug-1.John sm1-om2-learn-caus-dis.prf aug-2-student
 'John taught the students.'
- b. *U-John *fund-is-ile-ba-u* a-ba-fundi.
 aug-1.John learn-caus-dis.prf-om2-sm1 aug-2-student
 Intended: 'John taught the students.'

(41a) shows the right configuration. While the subject marker and the object marker are prefixed to the verb, the causative and the perfect marker are suffixed to the verb. In (41b), all the morphemes are suffixed to the verb, and the sentence is thereby ungrammatical.

Within Kayne's (1994) LCA, the distribution of the derivational and inflectional morphemes suggests that the verb does not move to T^0 or AgrS⁰. Another piece of evidence supporting this conclusion is that vP -edge adverbials are not allowed to appear between the verb and the object in neutral context. In languages like

²⁶Hyman (2003) argues that in Bantu languages, the derivational morphemes are ordered templatically and their linear position is not directly related to their semantic scope. He proposes the CARP template for Proto-Bantu: causative - applicative - reciprocal - passive, and claims that the CARP template drives many aspects of derivational suffixes ordering in the daughter Bantu languages. Good (2005) demonstrates that the ordering of the derivational morphemes complies with Hyman's CARP template in a large number of Bantu languages. However, he notices that in Xhosa, the order of derivational morphemes does not obey the CARP template. Instead, it displays Baker's (1985) Mirror Principle. In particular, Satyo (1985) and Good (2005) have demonstrated that both the causative-applicative and the applicative-causative order are highly productive and semantically transparent in Xhosa. For example, the distribution of the derivational morphemes in (37) is not subject to Hyman's CARP, but complies with the Mirror Principle. It is interesting to find out the mechanism that determines the distribution of derivational morphemes in Xhosa, however, I leave this issue for further research as it is far beyond the scope of this thesis.

French in which the verb moves to I, ν P-edge adverbials occur between the verb and the object (Pollock 1989 and Chomsky 1995 among others). This contrast is shown in the examples below.

(42) L'enseignant explique à nouveau cette question.

the-teacher explain again this question

‘The teacher is explaining this question again.’

(43) a. *U-Sipho u-caphuk-is-e kwakhona u-Mary.

aug-1.Sipho sm1-be angry-caus-prf again aug-1.Mary

b. U-Sipho u-caphuk-is-e u-Mary kwakhona.

aug-1.Sipho sm1-be angry-caus-prf aug-1.Mary again

‘Sipho made Mary angry again.’

(42) illustrates that in French, *à nouveau* ‘again’ occurs between the verb and the object. In contrast, *kwakhona* ‘again’ may not appear between the verb and the object in Xhosa (43a). Instead, it occurs in the sentence-final position in (43b). This suggests that unlike French, the verb in Xhosa does not raise to T^0 /Agr S^0 , leaving the object in the argument position.

To recapitulate, in Xhosa, while inflectional morphemes like agreement marking and the majority of tense markers are prefixed to the verb, derivational morphemes and the perfect marker are suffixed to the verb. In addition, ν P-edge adverbials are not allowed to appear between the verb and the object in neutral context. These properties suggest that unlike French-type languages, the verb in Xhosa does not raise to T^0 /Agr S^0 .

6.1.5.2 Challenges ν P-to-[Spec, AuxP]

In consideration of the problems that the V^0 -to- T^0 /Agr S^0 assumption faces, Buell (2005, 2006) argues that in Zulu the verb moves to [Spec, AuxP] via ν P movement. Buell states that the final vowel of the verb is sensitive to certain inflectional features in Zulu. Some Tense-Aspect-Mood marking is encoded in the final vowel position. Based on this, he considers the final vowel as the head of AuxP in the IP domain. The syntactic position of AuxP is schematically represented in (44).

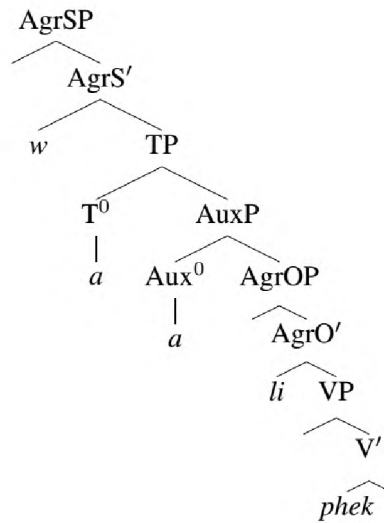
(44) a. W-a-li-phek-a

1sg-pst-om5-cook-fv

‘He cooked it.’

(Buell 2006: (20))

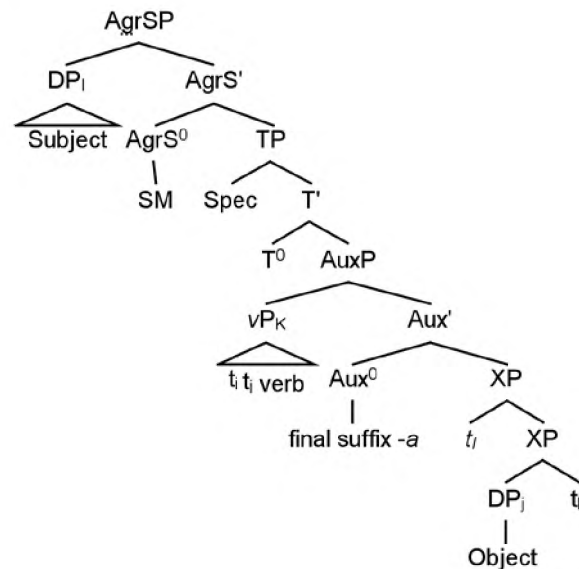
b. The position of AuxP in Zulu



(Buell 2006: (22))

Buell (2005, 2006) claims that in Zulu, the verb moves to the specifier of AuxP via vP phrasal movement to incorporate the inflectional features. Before the phrasal movement, all the arguments must be dislocated to some positions between vP and AuxP. Afterwards, the remnant of vP , i.e. in fact, only the verb is left, moves to [Spec, AuxP], as illustrated in (45).

(45) The vP -to-[Spec, AuxP]



(Adapted Buell 2006: (27))

In (45), the arguments are dislocated to XP and then the remnant of vP moves to [Spec, AuxP]. Buell's analysis entails the right word order. It also captures the property that the final vowel encodes certain TAM features. However, it faces some problems. First, Buell assumes that except the verb, all the other vP -

internal elements must move out of vP before the vP moves to [Spec, AuxP]. As Buell himself has pointed out, the motivation for the dislocation is unclear. I will show in Chapter 7 (Section 7.2) that the dislocated is driven by the [Focus] feature, and consequently, vP moves to [Spec, FocP] instead of [Spec, AuxP].

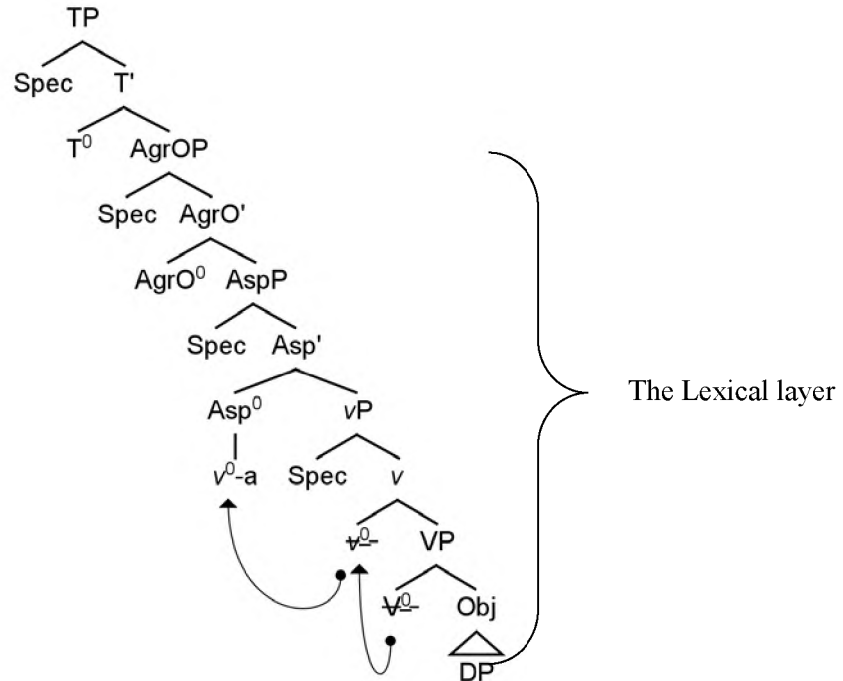
Second, Buell claims that all arguments must be dislocated to some positions between vP and AuxP before the remnant of vP moves to [Spec, AuxP]. This cannot explain the difference between object-marked DP and non-object-marked DP in terms of the prosodic boundary. Section 6.1.2 has already presented that there is a prosodic boundary between the verb and an object-marked DP, however such boundary does not exist between the verb and a non-object-marked DP. In fact, without object marking, the object remains in vP obligatorily. The object can only be dislocated out of vP when its object marker occurs.

6.1.5.3 v^0 -to- Asp⁰ in the PredP domain

The preceding section has shown the advantages and disadvantages of Buell's (2005) vP -to-AuxP analysis, based on which I argue that in Xhosa there exists an AuxP, which is addressed as AspP and the perfect marker *-e* is encoded at the head of AspP. However, differing from Buell, I propose that AspP occurs in the Lexical layer, which is addressed as Predicate Phrase (PredP) domain for the purpose of convenience. v^0 continues to move to Asp⁰ after incorporating the derivational morphemes.

In addition, I follow Holmberg's (1986) generalization and assume that AgrOP is also located in the PredP domain. Holmberg's generalization (Holmberg 1986 and Chomsky 1993) formulates that verb movement from V^0 to AgrO⁰ extends the domain of vP to AgrOP, resulting in the base position of the object equidistant to [Spec, AgrOP] and [Spec, VP]. Although according to the morphological distribution and Kayne's LCA, in Xhosa V^0 moves to Asp⁰ and the verb head movement terminates at Asp⁰, I assume that AgrOP occurs in the PredP domain in Xhosa. As a result, the structure of vP is schematically represented in (46).

(46) The structure of vP in Xhosa



There are a set of arguments that support the analysis that AspP occurs in the Lexical cycle. Firstly, the perfect tense is different from other tenses in terms of the interaction with situation types. The situation type (i.e. Aktionsart), which includes state, activity, accomplishment and achievement (Vendler 1957), plays an important role in interpreting the perfect form. For example, when the perfect marker co-occurs with a stative verb, it refers to a present state, however it refers to a past event when it co-occurs with the other types of verbs. However, such contrast is not found in other tenses. Consider the sentences in (47) and (48).

- (47) a. U-Sipho u-lamb-ile.
 aug-1.Sipho sm l-be hungry-dis.prf
 ‘Sipho is hungry.’
- b. U-Sipho u-phumelel-e u-viwo.
 aug-1.Sipho sm l-pass-prf aug-11.exam
 ‘Sipho passed the exam.’
- (48) a. U-Sipho w-a-lamb-a.
 aug-1.Sipho sm l-pst-be hungry-fv
 ‘Sipho was hungry.’

- b. U-Sipho w-a-phememel-a u-viwo.
 aug-1.Sipho sm1-pst-pass-fv aug-11.exam
 ‘Sipho passed the exam.’

In (47a), the verb *lamba* ‘be hungry’ is stative and consequently, the sentence is interpreted as meaning that Sipho is hungry at the speech time. The verb *phumelela* ‘to pass’ in (47b) is an instance of achievement verbs. This sentence refers to a past event. In contrast, in (48) the past tense marker *-a-* locates these two situations in the past, and does not show the interaction with the situation type of the verbs. The distinction between the perfect and the other tenses in terms of the relation with the situation type, to certain extent, suggests that the perfect is encoded differently structurally and that it may occur in a lower position.

Secondly, under Kayne’s (1994) LCA, after incorporating the derivational morphemes in the vP domain, v^0 continues to raise to the head of $AspP$ to check the [asp] features and the head movement terminates at $AspP^0$. This derivation results in the right morphological order. The structure in (46) presents that the morphological order of the verbal complex is: V^0 -appl/caus/repr/passi-prf, which complies with the order in Xhosa.

Thirdly, this accounts for the different distribution of the inflectional morphemes, i.e. while other tense markers are prefixed to the verb, the perfect marker is suffixed to the verb. v^0 moves to Asp^0 via head movement and the perfect marker is thus suffixed to the verb.

Fourthly, the analysis that $AspP$ occurs in the vP domain also explains why no prosodic breaking is allowed between the verb and the object in the conjoint form. The verb and the object are both in vP . According to Cheng & Downing’s (2008, 2012) hypothesis on the relation between the prosodic and syntactic phrase, the verb and the object must be parsed in one single prosodic phrase.

Fifthly, as has been presented in Section 5.1.1, the three-layered aspectual structure states that some aspects occur in a low position in the vP domain (Tenny 2000). This has been confirmed by the aspect system in Mandarin.

To recapitulate, this section first shows that the verb in Xhosa does not raise to $T^0/AgrS^0$, and then provides an overview of Buell’s (2005, 2006) vP -to-[Spec, AuxP] analysis. On account of the advantages and challenges of Buell’s analysis, I propose that in Xhosa, the verb moves to Asp^0 via head movement to check the [asp] feature. If V-stranding VPE does exist in Xhosa, $AspP$ must be the licensing head for VPE, not

TP. I further argue that AspP and AgrOP occur in the Lexical layer, not in the Functional layer, i.e. IP in traditional terms. Then the challenge is how AspP in the Lexical layer licenses VP ellipsis.

6.1.6 Summary

This section shows that like Mandarin, the putative VPE in Xhosa is not genuine VPE. In other words, there is no Verb-stranding VPE in Xhosa. The evidence for this conclusion covers: (i) non-object-marked DPs, which remain in *vP* are not allowed to be deleted in the putative VPE construction. Object-marked DPs can be deleted, but they are dislocated into a *vP*-external position and therefore their deletion is not attributed to VP ellipsis. (ii) In the conjoint form, manner adverbials occur in *vP*. They may not be elided in the target clause. (iii) In Double Object constructions, the missing object cannot be reconstructed if it is not object-marked. Furthermore, there exists an asymmetry between the direct and the indirect object when both objects are missing. The object marker of the indirect object must be prefixed to the verb; otherwise, the sentence will become ungrammatical. Lastly, I show that the verb does not raise to $T^0/AgrS^0$; instead, I argue that the verb remains in the PredP domain.

6.2 The elidable constituents in the *vP* domain in Xhosa

The above section shows that *vP* cannot be deleted in Xhosa. In this section, I list the constituents that can be deleted in the putative VPE construction, which includes object-marked DPs, NPs in the object, CP and infinitive complements.

6.2.1 Object-marked DPs

As shown in 6.1.2, when the object marker is prefixed to the verb, the object DP can be dropped freely. For convenience, I repeat the example below.

- (49) U-John u-fund-a i-si-Xhosa, na-ye u-Mary u-ya-si-fund-a [e].
 aug-1.John sm1-study-fv aug-7-Xhosa, and-1 aug-1.Mary sm1-prs.dis-om7-study-fv
 ‘John studies Xhosa and Mary also studies (it).’

In (49), the object marker occurs in the second conjunct. The object DP is missing on the surface and the sentence is completely grammatical.

Before concluding that object-marked objects can be deleted, we need find out the syntactic status of the object marker. More in particular, if the object marker is an instance of a pronoun (i.e. a pronominal clitic), there is no object missing in sentences like (49). The object marker serves as the object and receives the theta-role assigned by the verb. Therefore, it is crucial to find out whether the object marker in Xhosa is syntactic agreement marker or pronominal pronoun. In what follows, I provide a set of arguments to show that the object marker in Xhosa is an instance of agreement marker. This means that the object is missing in the second conjunct of (49).

6.2.1.1 Structural position of the object marker

The word order is considered as one of the diagnostics for testing whether a morpheme is a syntactic marker or a pronominal clitic (e.g. Langacker 1977, Steele 1979 and Deen 2006). It is argued that syntactic agreement markers are fixed in a particular position to the verb, whereas pronominal clitics normally have more freedom. Deen (2006) provides a range of data from different languages to support this assumption. For example, he observes that Tagalog has a set of pronominal clitics and agreement markers as well. A verb can either precede or follow pronominal clitics as long as the clitics occupy the second position in a clause, however, agreement markers must remain proximal to the verb with the same set of inflectional morphologies in-between.

The object marker in Xhosa is subject to a strict restriction on distribution. It must be immediately prefixed to the verb. No element is allowed to be inserted in-between, as illustrated in the following example.

- (50) a. U-Sipho u-ya-yi-fund-a i-ncwadi.
 aug-1.Sipho sm1-dis.prs-om9-read-fv aug-9.book
 ‘Sipho is reading the book.’
- b. *U-Sipho yi-u-ya-fund-a i-ncwadi.
 aug-1.Sipho om9-sm1-dis.prs- read-fv aug-9.book
- c. *U-Sipho u-ya -fund-a-yi i-ncwadi.
 aug-1.Sipho sm1-dis.prs-read-fv-om9 aug-9.book

In (50a), the object marker *yi* immediately precedes the verb and the sentence is therefore grammatical. In (50b) the subject marker *u* and the disjoint marker *ya* are inserted between the object marker and the verb and in (50c) the object marker is attached to the right of the verb, neither of the two sentences is

grammatical. The fixed structural position supports that the object marker is an instance of syntactic agreement markers.

6.2.1.2 Sensitivity to the Closest Principle

The second convincing argument for the syntactic marker assumption comes from the agreement relation between coordinate phrase object DPs and their object marker. Marten (2000) argues that in Swahili, when the subject is a coordinate phrase, the subject marker does not agree with the whole coordinate phrase, but with the DP that is closest to the verb (also see Ashton 1947 and Schadeberg 1992). Based on this property, Marten claims that the subject marker is syntactic agreement, which expresses a structural reflex between the subject and the verb. In Xhosa, the object marker is subject to the similar restriction. When a coordinate phrase acts as the object, the object marker is subject to the Closest Principle. The object marker agrees with the closest conjunct DP in the coordinate phrase object, instead of the entire coordinate phrase²⁷. This suggests that the object marker is not a pronominal clitic, but syntactic agreement. If it is an instance of pronominal clitics, it should refer to the whole object phrase rather than the closest conjunct DP. For the purpose of exposition, the following examples are provided.

- (51) a. U-Mary u-ya-zi-sukel-a i-zi-nja na-ma-hashe wa-khe
 aug-1.Mary sm1-dis.prs-om10-chase-fv aug-10-dog and-6-horse 6.poss-3sg
 ‘Mary is chasing her dogs and horse.’
- b. *U-Mary u-ya-wa-sukel-a i-zi-nja na-ma-hashe wa-khe
 aug-1.Mary sm1-dis.prs-om6-chase-fv aug-10-dog and-6-horse 6.poss-3sg
- (52) a. U-Mary u-ya-wa-sukel-a a-ma-hashe ne-zi-nja za-khe.
 aug-1.Mary sm1-dis.prs-om6-chase-fv aug-6-horse and-10-horse 10.poss-3sg
 ‘Mary is chasing her horse and dogs.’
- b. *U-Mary u-ya-zi-sukel-a a-ma-hashe ne-zi-nja za-khe.
 aug-1.Mary sm1-dis.prs-om10-chase-fv aug-6-horse and-10-horse 10.poss-3sg
- (53) a. Ndi-li-bon-ile i-qwarhashe ne-hashe.
 1sg-om5-see-dis.prf aug-5.zebra and-5.horse
 ‘I saw the zebra and the horse.’

²⁷ It should point out that there are other constraints on the relation between a coordinate phrase object and its object marker, such as whether the conjunct DPs refer to human being or not.

- b. *Ndi-*wa*-bon-ile i-qwarhashe ne-hashe.
 1sg-om6-see-dis.prf aug-5.zebra and-5.horse

The sentences in (51) and (52) illustrate that the object marker must agree with the closest conjunct DP. In (53), these two conjunct DPs in the object come from the same noun class (Class 5). The object can only agree with Class 5 (53a), not the corresponding plural noun class (Class 6) *-wa-* (53b). This contradicts the prediction of the pronominal clitic assumption. A pronoun should be the plural form. The ungrammaticality of (53b) shows that the object marker in Xhosa is an instance of structural agreements rather than a pronominal clitic.

6.2.1.3 Non-existence of double object marker

One of the important parameters of the object marker in Bantu languages is whether more than one object marker is allowed to be attached to one verb (Marten & Kula 2012). In Xhosa, only one object marker is allowed to be prefixed to one verb. In other words, in Double Object construction, the direct and indirect object cannot be object-marked at the same time, as illustrated in (54).

- (54) a. U-John u-nik-e a-ba-ntwana i-mali.
 aug-1.John sm1-give-prf aug-2-child aug-9.money
 ‘John gave children money.’
- b. U-John u-*yi*-nik-e a-ba-ntwana i-mali.
 aug-1.John sm1-om9-give-prf aug-2-child aug-9.money
 ‘John gave children the money.’
- c. U-John u-*ba*-nik-e i-mali a-ba-ntwana.
 aug-1.John sm1-om2-give-prf aug-9.money aug-2-child
 ‘John gave money to the children.’
- d. *U-John u-*ba-yi*-nik-e a-ba-ntwana i-mali.
 aug-1.John sm1-om2-om9-give-prf aug-2-child aug-9.money

No object marker appears in (54a) and the sentence is in the typical word order: V-IO-DO. The sentence in (54b) and (54c) show that either the direct object or the indirect object can be object-marked, but it is not possible that both object markers occur at the same time (54d).

Henderson (2006) proposes that the verb has an uninterpretable ϕ feature which need be checked by the interpretable ϕ feature of the object. The object marker expresses the agreement between the verb and the object. Following Henderson, it is tenable to assume that the uninterpretable ϕ feature of the verb can only be checked once. As a result, only one object marker is licensed to be attached to the verb.

By contrast, in languages with pronominal clitics, a ditransitive verb is allowed to have two pronominal clitic objects. For instance, in Romance languages like Italian, Spanish and Catalan, one verb can have more than one pronominal clitic object (Bonet 1995). Similarly, in Slavic languages such as Bulgarian and Macedonian, double pronominal clitics are also licensed (Bošković 2002), as illustrated in the example below.

- (55) a. Petko *mi* *go* dade.
 Petko me.dat it.acc gave
 ‘Petko gave it to me.’
 b. Ti *si* *mu* *gi* dal.
 you are him.dat them.acc given
 ‘You have given them to him’
- [Bulgarian, Frank & Bošković 2001: (1a)]

There are two pronominal clitics, *mi* and *go* in (55a) and *mu* and *gi* (55b), respectively. Both sentences are completely grammatical in Bulgarian.

It is interesting to note that in English and Mandarin, the direct and indirect object cannot be both pronouns in the canonical V-IO-DO order, as illustrated in (56) and (57).

- (56) a. John gave Mary a dog.
 b. *John gave her it.
 c. John gave it to her.
- [English]

- (57) a. John songgei Mary yi tiao gou.
 John give Mary one CL dog
 ‘John gave Mary a dog.’
 b. *John songgei ta ta le.
 John give 3sg 3sg.non-hum prf
 Lit.: ‘*John gave her it.’

- c. John *ba ta* songgei *ta le*.
 John BA 3sg.non-hum give 3sg prf
 ‘John gave it to her.’ [Mandarin]

The sentences in (56) show that the direct and the indirect object cannot be both pronouns unless the indirect object is shifted to a position after the direct object via the preposition *to* (56c). Likewise, in Mandarin, it is ungrammatical when both objects are pronouns in the V-IO-DO order (57b). The direct object pronoun must move to the preverbal position via *ba*-construction (57c).

Therefore, the question arises: whether double object marker is not allowed in the same way that double pronoun is prohibited in English and Mandarin. To put it differently, even if the object marker is a pronominal clitic, double object markers is not possible. However, unlike English and Mandarin, in Xhosa, the indirect and the direct object can be both pronouns, as shown in the following example.

- (58) a. U-John u-nik-e u-Mary i-nja.
 aug-1.John sm1-give-prf aug-1.Mary aug-9.dog
 ‘John gave Mary a dog.’
 b. U-John u-nik-e *ye-na* i-nja.
 aug-1.John sm1-give-prf 1-pro aug-9.dog
 ‘John gave her a dog.’
 c. U-John u-nik-e u-Mary *yo-na*.
 aug-1.John sm1-give-prf aug-1.Mary 9-pro
 ‘John gave it to Mary.’
 d. U-John u-nik-e *ye-na yo-na*.
 aug-1.John sm1-give-prf 1-pro 9-pro
 Lit.: ‘John gave her it.’

Note that the sentences in (58) are all in the V-IO-DO word order. The indirect and direct object can be both pronouns (58d).

Here it shows that while double pronouns are allowed in Xhosa, double object markers are not. This observation leads us to conclude that the object marker is different from pronoun syntactically, which confirms the conclusion that the object marker is not pronoun, not syntactical marker.

6.2.1.4 Unavailability in inversion constructions

In Zulu, the subject and the verb can be inverted, i.e. the subject follows the verb (e.g. Buell 2005, Halpert 2012 and Zeller 2012a, 2013). Zeller (2013) observes that absolute pronouns can appear in inversion constructions, whereas the object marker is prohibited. He considers this restriction as one important piece of evidence for the analysis that the object marker in Zulu is not a pronominal clitic, but a morphological reflex of A-bar movement. As expected, the object marker in Xhosa displays the same characteristic as that in Zulu. The object marker cannot be prefixed to the verb in inversion constructions, whereas pronouns can freely occur in such constructions, as shown in the following examples.

- (59) a. I-moto i-hamb-a u-Sipho.
 aug-9.car sm9-walk-fv aug-1.Sipho
 Lit.: ‘The car is walking Sipho (i.e. the car is used by SIPHO)’
- b. yo-na i-hamb-a u-Sipho.
 9-pro 9-walk-fv aug-1.Sipho
 Lit.: ‘it is walking Sipho (i.e. it is used by SIPHO).’
- c. I-moto i-hamb-a ye-na.
 aug-9.car sm9-walk-fv 1-pro
 Lit.: ‘the car is walking him (i.e. the car is used by HIM).’
- d. *I-moto i-(ya)-yi-hamb-a u-Sipho.
 aug-9.car sm9-(dis.prs)-om9-walk-fv aug-1.Sipho
 Intended: ‘the car is used by SIPHO.’
- e. *I-moto i-(ya)-m-hamb-a u-Sipho.
 aug-9.car sm9-(dis.prs)-om1-walk-fv aug-1.Sipho
 Intended: ‘The car is used by SIPHO.’

The sentence in (59a) illustrates the O-V-S inversion construction, in which the subject marker agrees with the logical object instead of the subject. In this case, the postverbal subject typically receives a focused reading, which will be discussed in Chapter 6 (Section 6.2). (59b) and (59c) show that either the preverbal object or the postverbal subject can be pronouns, respectively. In contrast, in (59d) the object marker of the preverbal object *yi* and in (59e) the object marker of the postverbal subject *m* are prefixed to the verb. Neither of these two sentences is grammatical regardless of whether it is in the conjoint form or in the disjoint form. The contrast between the object marker and the pronoun further confirms that the former is not a pronominal clitic.

6.2.1.5 Sloppy readings

The last piece of evidence for the analysis that the object marker is syntactical agreement marker is that in Xhosa, the missing object-marked DPs in the putative VPE construction can have a sloppy reading. When a missing object-marked DP contains a pronoun, the missing object DP can be referentially identical to the antecedent DP (strict reading) or be bounded by the subject of the target clause (sloppy reading), as illustrated in the following examples.

(60) U-John₁ u-tyelel-e a-ba-zali ba-khe₁, na-ye u-Mary₂ u-ba-tyelel-e²⁸ [e].
 aug-1.John sm1-visit-prf aug-2-parent 2.poss-3sg and-1 aug-1.Mary sm1-om2-visit-dis.prf
 ‘John visited his parents and Mary also visited (his/her parents).’

- (i) Strict reading: Mary₂ visited John₁’s parents.
- (ii) Sloppy reading: Mary₂ visited Mary₂’s parents.
- (iii) *Third reading: Mary visited someone else’s parents.

(61) U-John₁ u-thengis-e i-ndlu ya-khe₁, na-ye u-Mary₂ u-yi-thengis-ile [e].
 aug-1.John sm1-sell-prf aug-9.house 9.poss-3sg and-1 aug-1.Mary sm1-om9-sell-dis.prf
 ‘John sold his house and Mary also sold (his house/her house).’

- (i) ? Strict reading: Mary₂ sold John₁’s house.
- (ii) Sloppy reading: Mary₂ sold Mary₂’s house.
- (iii) *Third reading: Mary₂ sold someone else’s house.

Note that the object marker is prefixed to the verb in the second conjunct of (60). The missing object DP can refer to John’s parents (strict reading) or to Mary’s parents (sloppy reading)²⁹, but it is not possible to

²⁸ It should note that in the perfect tense, some verbs have one single form for the conjoint form and for the disjoint form, as illustrated:

verb	Conjoint	Disjoint
-tyelela ‘visit’	-tyelele	-tyelele
-lala ‘sleep’	-lele	-lele
-xelela ‘tell’	-xelele	-xelele
-mamela ‘listen to’	-mamele	-mamele

²⁹ It should be pointed out that among eight informants, three of them consider the sloppy reading in (52) and (53) to be unavailable. There are several possible factors that may result in the unavailability of a sloppy reading. Firstly, the informants come from different regions and they may speak different dialects, in which a sloppy reading behaves differently. Secondly, the possible readings - a sloppy, a strict, and a mixed reading - are not equal in terms of preference. Apart from the pragmatic context which

refer to someone else's parents. In (61), although the strict reading is possible, the sloppy reading is preferred under this context.

Here, the sloppy reading suggests that the object marker in Xhosa is not a pronominal clitic. If it is a pronominal clitic, it should be bound by the antecedent DP (the strict reading) or by a discourse topic, however, it should not have a sloppy reading as the sloppy reading is derived from the parallel internal structure between the antecedent and the missing constituent (May 1985), which will be further discussed in Section 6.3.2.

In summary, the object marker in Xhosa has the following properties: (i) it must be immediately prefixed to the verb and no element can be inserted in-between; (ii) object marking is subject to the Closest Principle when the object consists of more than one conjunct DP; (iii) only one object marker is licensed to be attached to each verb and double object marker is not allowed; (iv) while pronouns can occur in inversion constructions, the object marker is prohibited in such constructions; (v) missing object-marked DPs may have a sloppy reading in the putative VPE construction. These properties lead us to conclude that the object marker in Xhosa is a syntactic agreement marker rather than a pronominal clitic.

Zeller (2014) proposes that the object marker in Nguni languages (i.e. Zulu, Xhosa, Swati and Ndebele) is a morphological reflex of A-bar movement. I leave the debate about whether the object marker in Xhosa is an agreement marker or a morphological reflex of A-bar movement open. What this thesis is concerned with is that it is not a pronominal clitic. This means that sentences like (62b) have a missing object DP, which is either deleted at PF or it is an instance of deep anaphora like *pro*.

- (62) a. U-John w-a-yi-thengel-a *i-moto*.
 aug-1.John sm1-pst-om9-sell-fv aug-9.car
 ‘John sold the car.’
- b. U-John w-a-yi-thengel-a [e].
 aug-1.John sm1-pst-om9-sell-fv
 ‘John sold (the car).’

plays an important role in determining which reading is possible in a particular sentence, Li (2002) argues that the situation type (i.e. aktionsart) of verbs also plays a role in determining which reading is more preferable. Therefore, the situation type of the verbs that are used in the examples may also affect the availability of a sloppy reading. But here I am not going to discuss this issue in details and I leave it open for others' research.

As shown in Section 3.2.1, in Mandarin, while indefinite objects must remain overt, definite objects can be deleted. It is interesting to note that in Xhosa, object-marked DPs typically have a definite or specific reading. Adams (2010) states that in Zulu, object-marked DPs normally receive a definite or specific interpretation and inherently indefinite objects cannot co-occur with the object marker, as illustrated in (63).

- (63) a. A-*ngi*-thand-i mu-ntu.
 neg-1sg-like-neg 1-person
 ‘I don’t like anyone.’
- b. *A-*ngi-m*-thand-i mu-ntu.
 neg-1sg-om1-like-neg 1-person
 Intended: ‘I don’t like anyone.’ [Zulu, adapted from Adams 2010: (42)]

The ungrammaticality of (63b) indicates that the object marker cannot co-occur with an inherently indefinite object. In this aspect, Xhosa is similar to Zulu. The object marker yields a definite or specific interpretation. It may not occur in sentences with an inherently indefinite reading. The Xhosa counterpart of (63) is illustrated in (64).

- (64) a. A-*ndi*-thand-i m-ntu.
 neg-1sg-like-neg 1-person
 ‘I don’t like anyone.’
- b. A-*ndi-m*-thand-i u-m-ntu.
 neg-1sg-om1-like-neg aug-1-person
 ‘I don’t like the person.’

Without object marker, the object receives an indefinite interpretation in (64a). With object marking, the object must be interpreted as definite in (64b). In this case, the augment of the object *u*, which is considered as a marker of definiteness or specificity (Visser 2008) must remain overt.

However, Zeller (2012b) observes that Zulu allows object marking to co-occur with indefinite objects. More crucially, even if an object has a definite or specific reading, it may not be deleted if the object marker does not appear. For example, when a demonstrative phrase DP, which has a definite reading inherently, serves as the object, it cannot be deleted unless the object marker appears. Consider (65) below.

- (65) a. *U-John u-thand-a lo m-fundi,
 aug-1.John sm1-love-fv dem.1 1-student
 na-ye u-Mary u-(ya)-thand-a [lo—m-fundi].
 and-1 aug-1.Mary sm1-(dis.prs)-love-fv dem.1 1-student
 Intended: ‘John loves this student and Mary also does.’
- b. U-John u-thand-a lo m-fundi,
 aug-1.John sm1-love-fv dem.1 1-student
 na-ye u-Mary u-ya-m-thand-a [lo—m-fundi].
 and-1 aug-1.Mary sm1-prs.dis-om1-love-fv dem.1 1-student
 ‘John loves this student and Mary also does.’

In (65), the demonstrative phrase DP *lo mfundi* ‘this student’ has a definite reading inherently. However, without object marking, it cannot be deleted (65a). Instead, the object marker must appear in order to delete the object (65b). This shows that unlike Mandarin, in Xhosa, it is object marking, not definiteness of the object that is the necessary condition for object deletion. Therefore, I conclude that in Xhosa object-marked DPs can be deleted, leaving the interaction between object-marking and definiteness open for others’ research.

6.2.2 NPs in the object

Recall that Section 3.2.2 demonstrates in Mandarin, the NP complement of an object, regardless of definiteness of the object, can be deleted. Xhosa displays the same property as Mandarin in this respect. No matter whether the object marker occurs or not, the NP in the object DP can be deleted, as shown in the following examples.

- (66) a. U-John w-a-theng-a ii-moto ezi-ntathu,
 aug-1.John sm1-pst-buy-fv aug-10.car adj.10-three
 na-ye u-Mary w-a-theng-a [~~ii-moto~~] ezi-ntathu.
 and-1 aug-1.Mary sm1-pst-buy-fv aug-10.car adj.10-three
 ‘John bought three cars and Mary also bought three.’
- b. U-John w-a-theng-a ii-moto ezi-ntathu,
 aug-1.John sm1-pst-buy-fv aug-10.car adj.10-three
 na-ye u-Mary w-a-zi-theng-a [~~ii-moto~~] ezi-ntathu.
 and-1 aug-1.Mary sm1-pst-om10-buy-fv aug-10.car adj.10-three

- ‘John bought three cars and Mary also bought three.’
- (67) a. U-John u-nxib-e i-dyasi e-bomvu,
 aug-1.John sm1-wear-prf aug-9.coat rel.9-red
 na-ye u-Mary u-nxib-e [~~i-dyasi~~] e-bomvu.
 and-1 aug-1.Mary sm1-wear-prf aug-9.coat rel.9-red
 ‘John is wearing a red coat and Mary is wearing a red one.’
- b. U-John u-nxib-e i-dyasi e-bomvu,
 aug-1.John sm1-wear-prf aug-9.coat rel.9-red
 na-ye u-Mary u-yi-nxib-ile [~~i-dyasi~~] e-bomvu.
 and-1 aug-1.Mary sm1-om9-wear-dis.prf aug-9.coat rel.9-red
 ‘John is wearing a red coat and Mary is also wearing a red one.’

Note that in (66a) no object marker occurs and in (66b) the object marker *zi* is prefixed to the verb. In both sentences, the NP complement *iimoto* ‘cars’ is deleted, stranding the numeral phrase. Likewise, in (67), the NP *idyasi* ‘a coat’ is deleted, leaving the attributive *ebomvu* ‘red’ overt.

The attributive in Xhosa is still less studied. The issue whether *ntathu* ‘three’ in (66) and *bomvu* ‘red’ in (67) are modifiers and *ezi-* and *e-* are agreement between modifiers and modifiee NPs, or *ezi-ntathu* and *e-bomvu* are relative constructions syntactically is still unexplored³⁰. I leave it open for others’ discussion. My concern here is that NPs can be elided, stranding their attributive.

6.2.3 CP complements in the disjoint form

Section 3.2.3 illustrates that in Mandarin, CP complements can be deleted in the putative VPE construction. Similarly, in Xhosa, CP complements can also be deleted. However, in Xhosa, the target clause must be in the disjoint form. The sentence would be ungrammatical if it was in the conjoint form, as shown in the following examples.

- (68) a. Ndi-y-azi ukuba u-John u-thand-a u-Mary,
 1sg-dis.prs-know comp aug-1.John sm1-love-fv aug-1.Mary
 na-ye u-Sipho u-y-azi [~~ukuba u-John — u-thand-a — u-Mary~~].
 and-1 aug-1.Sipho sm1-dis.prs-know comp aug-1.John sm1-love-fv aug-1.Mary
 ‘I know that John loves Mary and Sipho also does/knows (it).’

³⁰ I owe Jochen Zeller for pointing out that syntactically, the attributive adjectives are relative constructions in Xhosa.

b. *Ndi-y-azi *ukuba u-John u-thand-a u-Mary,*
 1sg-dis.prs-know comp aug-1.John sm1-love-fv aug-1.Mary
 na-ye u-Sipho w-azi [~~*ukuba u-John — u-thand-a — u-Mary*~~].
 and-1 aug-1.Sipho sm1-know comp aug-1.John sm1-love-fv aug-1.Mary
 Intended: ‘I know that John loves Mary and Sipho also does/knows (it).’

(69) a. Ndi-bon-e *ukuba u-John u-ncamis-e u-Mary,*
 1sg-see-prf comp aug-1.John sm1-kiss-prf aug-1.Mary
 na-ye u-Sipho u-bon-*ile* [~~*ukuba u-John — u-ncamis-e — u-Mary*~~].
 and-1 aug-1.Sipho sm1-see-dis.prf comp aug-1.John sm1-kiss-prf aug-1.Mary
 ‘I saw that John kissed Mary and Sipho also did/ saw (it).’

b. *Ndi-bon-e *ukuba u-John u-ncamis-e u-Mary,*
 1sg-see-prf comp aug-1.John sm1-kiss-prf aug-1.Mary
 na-ye u-Sipho u-bon-*e* [~~*ukuba u-John — u-ncamis-e — u-Mary*~~].
 and-1 aug-1.Sipho sm1-see-prf comp aug-1.John sm1-kiss-prf aug-1.Mary
 Intended: ‘I saw that John kissed Mary and Sipho also did/ saw (it).’

Note that the second conjunct in (68a) and (69a) is in the disjoint form. Both sentences are completely grammatical when the CP complement is deleted. In contrast, the target clause in (68b) and (69b) is in the conjoint form; as a result, neither of these two sentences is grammatical when the CP complement is deleted.

6.2.4 Infinitive complements in the disjoint form

In Mandarin, the infinitive clause can be deleted in the complement position (Section 3.2.4). In Xhosa, the infinitive clause, which is introduced by the formative *uku*³¹ can also be deleted when it serves as a complement. Like CP complements, the target clause must be in the disjoint form. Consider the examples below.

(70) a. U-John u-fun-a *uku-fund-a i-ncwadi ka-Fred,*
 aug-1.John sm1-want-fv inf-read-fv aug-9.book poss.1-1.Fred
 na-ye u-Mary u-*ya*-fun-a [~~*uku fund-a i-ncwadi — ka-Fred*~~].
 and-1 aug-1.Mary sm1-dis.prs-want-fv inf-read-fv aug-9.book poss.1-1.Fred
 ‘John wants to read Fred’s book and Mary also wants to.’

³¹ The issue of whether *-uku-* is the infinitival or not is still less studied. Visser (1989) claims that *uku-* is the augment and prefix of Class15. Here, for convenience, I address it as the infinitival.

b. *U-John u-fun-a uku-fund-a i-ncwadi ka-Fred,
 aug-1.John sm1-want-fv inf-read-fv aug-9.book poss.1-1.Fred
 na-ye u-Mary u-fun-a [~~uku-fund-a i-ncwadi ka-Fred~~].
 and-1 aug-1.Mary sm1-want-fv inf-read-fv aug-9.book poss.1-1.Fred
 Intended: ‘John wants to read Fred’s book and Mary also wants to.’

(71) a. U-Mary u-zam-a uku-theth-a i-si-Xhosa,
 aug-1.Mary sm1-try-fv inf-speak-fv aug-7-Xhosa
 na-m ndi-ya-zama [~~uku-theth-a i-si-Xhosa~~].
 and-1sg 1sg-dis.prs-try-fv inf-speak-fv aug-7-Xhosa
 ‘Mary is trying to speak Xhosa and I am also trying to.’

b. *U-Mary u-zam-a uku-theth-a i-si-Xhosa,
 aug-1.Mary sm1-try-fv inf-speak-fv aug-7-Xhosa
 na-m ndi-zama [~~uku-theth-a i-si-Xhosa~~].
 and-1sg 1sg-try-fv inf-speak-fv aug-7-Xhosa
 Intended: ‘Mary is trying to speak Xhosa and I am also trying to.’

In (70a) and (71a), the second conjunct is in the disjoint form. These two sentences are both grammatical when the infinitive complement is deleted. In contrast, in (70b) and (71b) the second conjunct is in the conjoint form; hence, it is ungrammatical to delete the infinitive complement.

It should be noted that in Mandarin, *vP* can be deleted when it is governed by deontic modals (Section 3.2.5). Xhosa does not have deontic modals which correspond to that in Mandarin. As a result, unlike Mandarin, there is no *vP* ellipsis licensed by deontic modals. Modality in Xhosa is canonically conveyed by the so-called deficient verbs or by Tense-Aspect-Mood marking. Deficient verbs, which is called as auxiliary verbs (see e.g. McLaren 1955, Bennie 1953, Louw & Jubase 1963 and Du Plessis & Visser 1992) commonly have an ordinary substantive meaning. At the same time, they can be followed by a clausal complement like infinitive or subjective clauses and express temporal or aspectual information. Unlike modals in Mandarin, deficient verbs in Xhosa cannot license *vP* ellipsis. Consider the following examples.

(72) a. U-John w-andula uku-theng-a i-moto,
 aug-1.John sm1-be recent inf-buy-fv aug-9.car
 na-ye u-Mary w-andula uku-theng-a i-moto.
 and-1 aug-1.Mary sm1-be recent inf-buy-fv aug-9.car
 ‘John bought a car recently and Mary did too.’

b. *U-John w-*andula* uku-theng-a i-moto,
 aug-1.John sm1-be recent inf-buy-fv aug-9.car
 na-ye u-Mary w-*andula* [~~uku-theng-a i-moto~~].
 and-1 aug-1.Mary sm1-be recent inf-buy-fv aug-9.car
 Intended: ‘John bought a car recently and Mary did too.’

(73) a. U-John u-*soloko* e-tyelel-a a-ba-zali ba-khe,
 aug-1.John sm1-be always ptcp.sm1-visit-fv aug-2-parent 2.poss-3sg
 na-ye u-Sipho u-*soloko* e-tyelel-a a-ba-zali ba-khe.
 and-1 aug-1.Sipho sm1-be always ptcp.sm1-visit-fv aug-2-parent 2.poss-3sg
 ‘John always visits his parents and Mary does too.’

b. *U-John u-*soloko* e-tyelel-a a-ba-zali ba-khe,
 aug-1.John sm1-be always ptcp.sm1-visit-fv aug-2-parent 2.poss-3sg
 na-ye u-Sipho u-*soloko* [~~e-tyelel-a — a-ba-zali — ba-khe~~].
 and-1 aug-1.Sipho sm1-be always ptcp.sm1-visit-fv aug-2-parent 2.poss-3sg
 Intended: ‘John always visits his parents and Mary does too.’

In (72), the deficient verb *andula* indicates that a situation occurred not long ago and it is followed by an infinitive clause. The infinitive clause may not be deleted (72b). In (73), the deficient verb *soloko* ‘always’ is followed by a participial clause and the complement cannot be deleted either. This shows that deficient verbs cannot license *vP* ellipsis in Xhosa.

In summary, in Xhosa, object-marked DPs, the NP complement of an object regardless of whether the object is object-marked or not, CP and infinitive complements can be deleted in Xhosa. The constituents that can be deleted in Xhosa display a parallel to those in Mandarin (Section 3.2), as inventoried in (74).

(74) Constituents that can be deleted in the putative VPE construction

	NP complements	Definite objects	Object-marked objects	<i>vPs</i> governed by modals	Infinitive complements	CP complements
Mandarin	√	√	N/A	√	√	√
Xhosa	√	N/A	√	N/A	√	√

The following question is whether the dropped constituents are, like the counterparts in Mandarin, PF-deletion (i.e. ellipsis), or they are deep anaphora like *pro*. This question will be explored in the next section.

6.3 Evidence supporting PF-deletion

The preceding section has presented the constituents that can be missing in the *vP* domain, which cover object-marked DPs, the NP complement of objects, CP and infinitive complements. This section is concerned with the properties of these missing constituents. By exploiting the tests that have been established for distinguishing PF-deletion from deep anaphora like *pro*-form, I show that like that in Mandarin, the missing constituents in Xhosa are instance of PF-deletion, rather than deep anaphors.

Theoretically, the *pro*-drop parameter provides a possible explanation for the assumption that these missing constituents in Xhosa are *pro*. The *pro*-drop parameter divides languages into two groups: *pro*-drop languages and non-*pro*-drop languages in respect of whether the subject can be ‘dropped’ or not. Languages like Italian and Spanish are *pro*-drop languages in which a pronoun is allowed to drop from the subject position in tensed clauses, whereas languages like English and French require an overt subject in tensed clauses (see among others Taraldsen 1980, Chomsky 1981, 1982, Rizzi 1982, Jaeggli 1982 and Borer 1983). Taraldsen (1978) proposes that *pro*-drop correlates with the richness of the inflectional morphemes, in particular agreement. In line with Taraldsen (1980), Chomsky (1981, 1982) and Rizzi (1982) claim that in Italian and Spanish, the subject pronoun is licensed to drop in tensed clauses by the verb-subject agreement. In a language, if the subject agreement marker is rich enough to identify the referent of a missing subject, *pro* is allowed in the subject position. In English and French, the subject agreement marking is too poor to identify the referent of a missing subject; hence, *pro* is prohibited in the subject position.

Xhosa is rich in both subject and object agreement marking. More crucially, the object can be dropped only if the object marker occurs. The object marker bears the same phi-features as the object. Therefore, it provides sufficient information to identify the referent. Following the generalization about the interaction between agreement marking and *pro*, it seems to be plausible to assume that missing object-marked DPs are *pro*. However, in what follows, a range of evidence will be provided to illustrate that the missing site in the *vP* domain are not *pro*, but PF-deletion (i.e. ellipsis). First, there is no agreement marking for infinitive and CP complements, which argues against the assumption that agreement marking licenses *pro* drop. Second, the missing constituents may have a sloppy reading and a mixed reading. Third, the missing constituents can provide an antecedent for pronominal anaphors. Fourth, the missing site can appear in

various syntactic islands. These properties suggest that the missing constituents are derived from PF-deletion.

6.3.1 Agreement marking for elided constituents

While the object marker of missing objects must be prefixed to the verb, there is no agreement marking for missing infinitive or CP complements. This has been illustrated in (68-71). For convenience, I repeat (68) and (71) below.

- (75) Ndi-y-azi *ukuba u-John u-thand-a u-Mary,*
 1sg-dis.prs-know comp aug-1.John sm1-love-fv aug-1.Mary
 na-ye u-Sipho u-y-azi [~~*ukuba u-John*~~ — [~~*u-thand-a*~~ — [~~*u-Mary*~~]].
 and-1 aug-1.Sipho sm1-dis.prs-know comp aug-1.John sm1-love-fv aug-1.Mary
 ‘I know that John loves Mary and Sipho also does/knows (it).’
- (76) U-John u-fun-a *uku-fund-a i-ncwadi ka-Fred,*
 aug-1.John sm1-want-fv inf-read-fv aug-9.book 1.poss-1.Fred
 na-ye u-Mary u-ya-fun-a [~~*uku-fund-a i-ncwadi*~~ — [~~*ka-Fred*~~]].
 and-1 aug-1.Mary sm1-dis.prs-want-fv inf-read-fv aug-9.book 1.poss-1.Fred
 ‘John wants to read Fred’s book and Mary also wants to.’

In (75) and (76), the CP and the infinitive complement are deleted in the second conjunct, respectively. There is no agreement marking for these missing constituents. Both sentences are completely grammatical.

In line with the *pro*-drop assumption, an object-marked DP can be dropped (i.e. *pro*) because the object marker provides enough information to identify the missing object DP. However, no agreement marking appears when an infinitive or CP complement is dropped. The interaction between *pro*-drop and agreement marking cannot account for the missing infinitive and CP complements.

6.3.2 Sloppy readings and mixed readings

Section 3.3.1 has shown that the ellipsis site in Mandarin putative VPE construction may have a sloppy reading and a mixed reading. Similarly, the missing site in Xhosa can have a sloppy reading. As has been demonstrated in Section 6.2.1.5, the sloppy reading suggests that the object marker in Xhosa is not a pronominal clitic. It also indicates that the missing site is not deep anaphor, but PF-deletion in that the strict

reading is attributed to the referential nature of the deleted pronoun, whereas the sloppy reading is derived from the parallel syntactic structure between the ellipsis site and the antecedent (Lasnik 1976, Reinhart 1983, May 1985 and among others). Importantly, the sloppy reading is subject to the locality effect, as shown in the example below.

- (77) U-John₁ u-thand-a a-ba-zali ba-khe₁,
 aug-1.John sm1-love-fv aug-2-parent 2.poss-3sg
 u-Sipho₃ u-thi u-Mary₂ na-ye u-ya-ba-thand-a [~~a-ba-zali~~—ba-khe].
 aug-1.Sipho sm1-say aug-1.Mary and-1 sm1-dis.prs-om2-visit-fv aug-2-parent 2.poss-3sg
 ‘John loves his parents. Sipho says that Mary also loves (his/her parents).’
 (i) Strict reading: Mary₂ loves John₁’s parents.
 (ii) Sloppy reading: Mary₂ loves Mary₂’s parents.
 (iii) *Locality effect: Mary₂ loves Sipho₃’s parents.

Note that in (77) the missing object can refer to Mary’s parents (the sloppy reading), however it is not possible to refer to Sipho’s parents. This means that the sloppy reading is subject to the locality effect. As shown in the literature review chapter (Section 2.3), Huang (1989, 1991) claims that the locality effect suggests that the missing site is an instance of ellipsis.

According to my informants, a third reading is not possible in (77). However, in some cases, a third reading is possible. Consider the sentence in (78).

- (78) U-John₁ u-beth-e u-m-twana wa-khe₁, na-ye u-Mary₂ u-m-beth-ile [e].
 aug-1.John sm1-beat-prf aug-1-child 1.poss-3sg and-1 aug-1.Mary sm1-om1-beat-dis.prf
 ‘John beat his child and Siphos beat (John’s child/Siphos’ child/John).’
 (i) Strict reading: Mary₂ beat John₁’s child.
 (ii) ?? Sloppy reading: Mary₂ beat Mary₁’s child;
 (iii) Third reading: Mary beat John.

In (78), while the sloppy reading is marginally acceptable in this sentence, the third reading is perfectly available.

The third reading is significant. As it has been already mentioned, based on the availability of a third reading, Hoji (1997, 1998) and Kim (1999) argue that the sloppy reading in Japanese and Korean is not a genuine

sloppy reading, but a sloppy-like reading, which is one special interpretation of third readings. Hoji (1997) proposes that a mixed reading is a genuine sloppy identity as it exclusively relies on Formal Dependency, which can only arise in PF-deletion, not in deep anaphora. In Xhosa, the missing site can have a mixed reading, as shown in the examples below.

(79) U-John₁ u-y-azi ukuba u-titshala wa-khe₁ u-ya-m-thand-a,
 aug-1.John sm1-dis.prs-know comp aug-1.teacher 1.poss-3sg sm1-dis.prs-om1-like-fv
 na-ye u-Sipho₂ u-y-azi [e].

and-1 aug-1.Sipho sm1-dis.prs-know

‘John₁ knows that his₁ teacher likes him₁ and Sipho₂ knows (it) too.’

(i) Strict reading: Sipho₂ knows that John₁’s teacher likes John₁.

(ii) Sloppy reading: Sipho₂ knows that Sipho₂’s teacher likes Sipho₂.

(iii) Mixed reading1: Sipho₂ knows that John₁’s teacher likes Sipho₂.

(iv) Mixed reading2: Sipho₂ knows that Sipho₂’s teacher likes John₁.

(80) U-John₁ u-ndi-xelex-e ukuba u-thand-a u-titshala wa-khe₁,
 aug-1.John sm1-om.1sg-tell-dis.prf comp sm1-like-fv aug-1.teacher 1.poss-3sg
 na-ye u-Sipho₂ u-ndi-xelex-e [e].

and-1 aug-1.Sipho sm1-om.1sg-tell-dis.prf

‘John₁ told me that he₁ likes his₁ teacher and Sipho₂ told me, too.’

(i) Strict reading: Sipho₂ told me that John₁ likes John₁’s teacher.

(ii) Sloppy reading: Sipho₂ told me that Sipho₂ likes Sipho₂’s teacher.

(iii) Mixed reading1: Sipho₂ told me that Sipho₂ likes John₁’s teacher.

(iv)*Mixed reading2: Sipho₂ told me that John₁ likes Sipho₂’s teacher.

In (79) and (80), the entire CP complement is missing in the second conjunct. Apart from the strict reading and the sloppy reading, the missing CPs can also have mixed readings³². Following Hoji (1997), the mixed readings suggest that the missing site has an internal structure. In other words, they are PF-deletion rather than deep anaphors like *pro*-form.

³² Again, the three informants who considered the sloppy reading to be impossible in (60-61) (see Footnote 29) think that the mixed readings are not possible in (79-80), but they describe the sloppy reading as available in these two sentences.

6.3.3 Providing antecedents for pronominal anaphors

Like in Mandarin, in Xhosa, when the missing site contains a simple NP or DP, the missing antecedent test is not applicable as it fails to distinguish PF-deletion from deep anaphora. Consider the following examples.

- (81) a. *U-John a-ka-sebenz-is-anga peni uku-bhala oo-nobumba,
 aug-1.John neg-sm1-work-caus-prf.neg 9.pen inf-write aug-2.letter
 u-thi i-sebnez-e kakuhle.
 sm1-say sm9-work-prf well
 Lit: ‘John did not use a pen to write letters. He said that it worked well.’
- b. U-John a-ka-sebenz-is-anga peni uku-bhala oo-nobumba,
 aug-1.John neg-sm1-work-caus-prf.neg 9.pen inf-write aug-2.letter
 kodwa u-Mary u-yi-sebenz-is-ile [e], u-thi i-sebnez-e kakuhle.
 but aug-1.Mary sm1-om9-work-caus-dis.prf sm1-say sm9-work-prf well
 ‘John did not use a pen to write letters, but Mary did use (it). She said that it worked well.’
- (82) a. *U-John zange a-hlamb-e e-nye i-mpahla,
 aug-1.John never sm1.sujv-wash-sujv adj.9-one aug-9.clothing
 kodwa w-a-yi-mosh-a.
 but sm1-pst-om9-ruin-fv
 Lit: ‘John never washed one piece of clothing, but he ruined it.’
- b. U-John zange a-hlamb-e e-nye i-mpahla,
 aug-1.John never sm1.sujv-wash-sujv adj.9-one aug-9.clothing
 u-Sipho w-a-hlamb-a e-nye [e] kodwa w-a-mosh-a yo-na.
 aug-1.Sipho sm1-pst-wash-fv adj.1-one but sm1-pst-ruin-fv 9-pro
 ‘John never washed one piece of clothing. Sipho washed one, but he ruined it.’
- c. U-John zange a-hlamb-e e-nye i-mpahla,
 aug-1.John never sm1.sujv-wash-sujv adj.9-one aug-9.clothing
 u-Sipho w-a-zi-hlamb-a [e] kodwa w-a-mosh-a zo-na.
 aug-1.Sipho sm1-pst-om10-wash-fv but sm1-pst-ruin-fv 10-pro
 ‘John never washed one piece of clothing. Sipho washed (clothes), but he ruined them.’

(81a) shows that the negative clause cannot provide an antecedent for the subject of the subclause in the second clause. This means that in (81b) the missing object in the second clause provides the antecedent for the subject. Similarly, in (82b) the missing NP complement and in (82c) the missing object provides the

antecedent for the pronoun object in the following clause, respectively. However, it is possible that the pronominal anaphors are bound by a *pro* or a zero topic. More specifically, assuming the missing object or missing NP complement of the object is *pro*, it can serve as the antecedent for another pronominal anaphor. Therefore, the examples like (81-82) cannot distinguish ellipsis from deep anaphor.

However, when the missing site contains a relative clause, an antecedent can be contained in the missing relative clause, as illustrated in (83).

- (83) U-Harry w-a-tshon-is-a i-nqanawa e-phath-e i-mfene,
 aug-1.Harry sm1-pst-sink-caus-fv aug-9.ship rel.9-carry-prf aug-9.baboon
 na-ye u-George w-a-tshon-is-a e-nye [e]. Zo-mbini z-a-tshon-a.
 and-1 aug-1.George sm1-pst-sink-caus-fv adj.9-one 10.poss-two sm10-pst-sink-fv
 ‘Harry sank a ship that carried one baboon and George also sank one. Both of them
 (baboons) were drowned.’

In (83), the NP complement which contains a relative clause is missing in the second conjunct, leaving the numeral phrase overt. The subject in the following clause is partly bound by the object of the missing relative clause. Following Hankamer & Sag (1976), the missing site cannot be *pro*, but PF-deletion.

6.3.4 Insensitivity to island effects

Like the ellipsis site in Mandarin, the missing constituents in Xhosa can appear in various syntactic islands. Consider the following examples.

- (84) I-nto yokuba u-John e-be i-mali ka-titshala
 aug-9.thing 9.comp aug-1.John sm1.ptcp-steal-prf aug-9.money 1.poss-1.teacher
 i-be-ne-futhe eli-bi, ne-nto yokuba u-Mary na-ye
 sm9-pst-have-5.effect adj.5-bad and-9.thing 9.comp aug-1.Mary and-1
 e-yi-b-ile [e] i-zi-mosh-e mpela i-zi-nto.
 sm1.ptcp-om9-steal-dis.prf sm9-om10-ruin-prf totally aug-10-thing
 ‘The fact that John stole the teacher’s money had a bad effect and that Mary also stole (the
 teacher’s money) totally ruined things.’ (Complex NP island)

- (85) U-John u-fun-a uku-fund-a la newadi
 aug-1.John sm1-want-fv inf-read-fv dem.9 9.book
 kuba u-Mary u-yi-fund-ile [e].
 because aug-1.Mary sm1-om9-read-dis.prf
 ‘John wants to read that book because Mary read (that book).’ (Adjunct island)
- (86) u-John u-gxek-e a-ba-fundi aba-nga-khange ba-ngenis-e m-sebenzi,
 aug-1.John sm1-criticise-prf aug-2-student rel.2-can-neg sm2-submit-prf 3-work
 ze w-a-ncom-a a-ba-fundi aba-wu-ngenis-ile-yo [e].
 then sm1-sujv.pst-praise-fv aug-2-student rel.2-om3-submit-dis.prf-rs
 ‘John criticized the students who did not submit the work and praised the students
 who did.’ (Relative Clause island)

In (84-86), the missing object construction occurs in Complex NP Island, Adjunct Island and Relative Clause Island, respectively. These three sentences are all grammatical. As has been shown in Section 2.2.1, the Island effect test stipulates that the Null Object is sensitive to the Island effect, whereas ellipsis is not. Here it suggests that the missing constituents are ellipsis.

Another important diagnostic for PF-deletion is extraction. However, this test is not applicable in Xhosa. First, like Mandarin, *wh*-phrases in Xhosa do not under movement to [Spec, CP]. As a result, *wh*-extraction from the missing site is not possible. Second, in Xhosa, while some elements can float freely, some are fixed in a particular position. For instance, without object marking, the object must follow the verb and is not allowed to move out of VP, whereas with object marking, the object can float freely. This property makes it impossible to exploit the extraction test. More in particular, the impossibility of extraction may be attributed to the restrictions on movement. Therefore, as Aelbrecht (2010) has pointed out, the unavailability of extraction does not directly indicate that the ellipsis site is a *pro*-form.

Lastly, it should be pointed out that like Mandarin, the missing constituents in Xhosa can occur under pragmatic control in which no linguistic antecedent is found. In particular, like the Mandarin counterpart, in Xhosa the missing site can appear in various syntactic islands under pragmatic control. Consider the following examples.

- (87) [A young man with a ripped coat enters the room.]
 ‘U-nga-khathazek-i, u-m-ntu o-za ku-yi-thung-a [e] u-za ku-fik-a ngoku.’
 2sg-neg-worry-neg aug-1-person rel.1-fut-om9-sew-fv sm1-fut-arrive-fv now
 ‘Don’t worry. Soon someone who will sew (the coat) up will come.’ (Relative Clause island)

(88) [John lent his car to a stranger who said he would return the car by 17:00. It’s already 17:30. Mary was a bit worried.]

“U-nga-khathazek-i. U-m-ntu o-za ku-yi-buyis-a [e] u-zo-z-a kungekudala.”

2sg-neg-worry-neg aug-1-person rel.1-fut-om9-return-fv sm1-fut-come-fv soon

‘Don’t worry. The person who is going to return (the car) will come soon.’

(Relative Clause island)

(89) [The teacher had been repeating the same question for three times, but no students intended to answer the question.]

“I-nto yokuba a-ku-kho m-ntu o-wu-phendul-a-yo [e] i-ndi-danis-a.”

aug-9.fact 9.comp neg-expl.17-here 1-person rel.1-om3-answer-fv-rs sm9-om.1sg-disappoint-fv

‘The fact that nobody answers (the question) makes me disappointed.’

(Complex NP island)

Note that there is no linguistic antecedent in (87-89). The missing object occurs in Relative Clause Island and Complex NP Island and all these sentences are well-formed. This shows that the missing constituents can occur under pragmatic control.

In conclusion, this section shows that the missing site in Xhosa putative VPE construction has the following properties: (i) agreement marking is not a necessary condition for missing constituents. No agreement marking occurs when an infinitive or CP complement is deleted. (ii) The missing constituents may have a sloppy reading and a mixed reading. The sloppy reading is subject to the locality effect. (iii) The missing site can provide an antecedent for pronominal anaphors. (iv) The missing constituents can appear in various syntactic Islands. (v) The missing constituents can occur in pragmatic control without linguistic antecedent. The properties (ii-v) are similar to that of the ellipsis site in Mandarin, as illustrated in the table below.

(90) The properties of the missing constituents in Mandarin and Xhosa

	Mandarin	Xhosa
Sloppy and mixed reading	√	√
Extraction	√	N/A
Missing antecedent	√	√
Island effect	×	×
Linguistic antecedent	×	×

These properties lead us to conclude that like the counterpart in Mandarin, the missing constituents in Xhosa putative VPE construction are instances of PF-deletion.

6.4. Conclusion

This chapter shown that Xhosa is similar to Mandarin in terms of ellipsis in the ν P domain. In both languages, there is no VPE, i.e. V-stranding VPE. Firstly, without object marking, the object must remain inside ν P, but it cannot be deleted. If ν P was elided, providing that the verb raised a higher position and thus escaped ellipsis, the object that remained in ν P should be deleted compulsorily. In Xhosa, object-marked DPs can be elided, however a set of arguments shows that they move out of ν P. Therefore, the missing object-marked DPs are not related to VPE. Secondly, manner adverbials occur in the ν P domain in the conjoint form, but they are not allowed to be deleted. Thirdly, in Double Object constructions, the direct object and indirect object can be both missing in the target clause, but they are not necessarily recovered simultaneously. Furthermore, there exists an asymmetry between the direct and indirect object with respect to object marking. The indirect object (i.e. the beneficiary/goal) must be object-marked when both objects are absent; otherwise, the sentence becomes ungrammatical. This asymmetry suggests that the absence of the objects is not attributed to VPE, but to DP ellipsis or *pro*-form.

Although ν P may not be deleted, like Mandarin, there are a set of elidable constituents in the putative VPE construction in Xhosa - object-marked DPs, NP complements of objects, CP and infinitive complements. For the purpose of exposition, I list the similarities between Xhosa and Mandarin in (91).

(91) The constituents that can be elided in the ν P domain

	NP complements	Definite objects	object-marked DPs	ν P governed by deontic modals	Infinitive complement	CP complement
Mandarin	√	√	N/A	√	√	√
Xhosa	√	N/A	√	N/A	√	√

As their Mandarin counterparts, the missing constituents in Xhosa display the properties of PF-deletion: (i) they may have a sloppy reading and a mixed reading. (ii) they can provide an antecedent for pronominal anaphors. (iii) they can appear in various syntactic islands. (iv) they can occur in pragmatic control without a linguistic antecedent. These properties suggest that like the ellipsis site in Mandarin, the missing constituents in Xhosa putative VPE constructions favour the PF-deletion analysis. Consequently, the question arises: whether the Ellipsis EPP Hypothesis that is proposed based on ellipsis in Mandarin (Chapter 4) can account for the derivation of ellipsis in Xhosa. I will answer this question in the following two chapters.

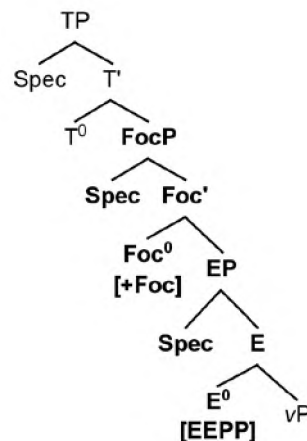
Chapter 7 The syntactic structure of the ν P left periphery: FocP and EP

7.0 Introduction

Chapter 6 has demonstrated the similarities between Xhosa and Mandarin in terms of ellipsis in the ν P domain. In both languages, NP complements of objects, CP complements and infinitive complements can be deleted. The objects that can/must move out of ν P are allowed to be deleted. Apart from the ν Ps that are governed by deontic modals in Mandarin, ν P are prohibited from being elided. In addition, the elided constituents in these two languages have an internal syntactic structure and they are PF-deletion. On account of the similarities between Xhosa and Mandarin, it is tenable to assume that the Ellipsis EPP Hypothesis (cf. Chapter 4 (15)) can also account for the ellipsis in the ν P domain in Xhosa. This chapter and the following chapter aim to find out whether the Hypothesis can account for ellipsis in Xhosa or not.

The Ellipsis EPP Hypothesis states that there exists an EP at the left periphery of ν P and an XP in the ν P domain will be deleted when it moves to [Spec, EP] to satisfy the EEPP feature on EP (cf. Chapter 4 (15)). We need first explore the structure of the ν P left periphery in order to answer the question whether the Ellipsis EPP Hypothesis can be applied for the derivation of ellipsis in Xhosa. Therefore, in this chapter, I provide the structure of the ν P left periphery in Xhosa and show that apart from EP, there is also a Focus Phrase (FocP henceforth) at the ν P left periphery. The FocP has a strong [+Focus] feature, which drives ν P to move to [Spec, FocP] to realize focus. The structure of the ν P left periphery in Xhosa is schematically represented in (1).

(1) The structure of the ν P left periphery in Xhosa



This chapter is organized as follows. Section 7.1 demonstrates the focused site in the conjoint form and in the disjoint form, respectively. Section 7.2 provides a review of the frameworks on focus in Bantu languages. I further point out the advantages and disadvantages of each framework. In Section 7.3, I propose that there is a FocP between IP and ν P structurally, which has a strong [+Focus] feature. The focused constituents move to [Spec, FocP] via ν P movement to realize focus, and non-focused constituents are dislocated out of ν P compulsorily before ν P-to-[Spec, FocP]. Section 7.4 provides a summary of the chapter.

7.1 The focused site in Xhosa

Before discussing the focus in Xhosa, I first clarify that in this thesis, I adopt Kiss's (1988) definition of focus. Kiss claims that focus conveys non-presupposed information or expresses a quantificational-like operation (Kiss 1998: 1). Consequently, a focused XP refers either to non-presupposed information or to a quantificational-like operation.

Languages differ from each other in terms of focus marking. Three fundamental approaches for marking focus are found in languages, namely the prosodic (i.e. intonational), morphological and syntactic approaches. Languages like English and Mandarin typically use the prosodic approach to express focus, which are addressed as prosody-dominant languages. In this type of languages, the focused constituent receives prosodic prominence without movement or morphological marker (see Engdahl & Vallduví 1996 for more details). In languages such as Wolof, the focus is marked by a certain morphological affix. For instance, in Wolof, the focus marker is inserted before the verb to indicate whether the subject, complement or verb is focused (Rialland & Robert 2001). There are also many languages, which are called as the syntax-dominant languages (e.g. Vallduví 1990, Van Valin 1999 and Samek-Lodovici 2005, 2006), making use of syntactic displacement to express focus. For example, in Romance languages such as Italian, Spanish and Catalan, focused constituents are dislocated to the focused position via syntactic movement (e.g. Vallduví 1990, Cinque 1993, Reinhart 1995, Selkirk 1995, Engdahl & Vallduví 1996, Zubizarreta 1998 and Frota 2014).

The approaches of focus marking play an important role in respect to the linear order. Prosody-dominant languages like English and Mandarin have flexible sentence stress, but rigid syntax, whereas syntax-dominant languages like Italian have rigid prosody, but flexible syntax (e.g. Van Valin 1999, Samek-Lodovici 2005, 2007 and Downing & Pompino-Marschall 2013). More precisely, in prosody-dominant languages, the sentence stress moves to the focused constituent. As a result, focused constituents do not

undergo syntactic movement to the position of prominence. However, in syntax-dominant languages focused constituents move to a specified position of focus; hence, the word order varies according to focus.

In respect of the parameter of focus marking, Xhosa is an instance of syntax-dominant languages. In this language, there is a particular fixed position, which bears the [+ Focus] feature. More specifically, in the conjoint form, the position immediately after the verb, which is dubbed as Immediate After Verb (IAV henceforth) in literature, is focused. In the disjoint form, the verb is typically focused. In what follows, I am going to demonstrate the focused site in the conjoint form and the disjoint form, respectively to show that Xhosa is a syntax-dominant language.

7.1.1 Focus on IAV in the conjoint form

It has been found that the IAV position is focused in Aghem (Watters 1979, Hyman & Watters 1984 and Hyman 1979, 2005), Chichewa (Bresnan & Kanerva 1989 and Bresnan 1994), Kimatuumbi (Drubig & Schaffar 2001), Makhuwa (Schadeberg & Mucanheia 2000 and van der Wal 2006), Sotho (Demuth & Mmusi 1997), Northern Sotho (Zerbian 2006) and Zulu (van der Spuy 1993, Buell 2005, 2006, 2007 and Cheng & Downing 2009, 2012) among others. Like these Bantu languages, the constituent in the IAV position also receives a focused reading in Xhosa. The evidence for this claim includes: (i) *wh*-phrases, which have an inherent [+Focus] feature, must occur in the IAV position; (ii) a constituent with a contrastively focus interpretation is also required to appear in the IAV position; (iii) the postverbal subject in inversion constructions is focused.

It should note that the IAV only refers to the position after the verb in the conjoint form. It does not involve the disjoint form since apart from the verb, all other *vP*-internal constituents are dislocated out of *vP* obligatorily (Section 7.1.2).

7.1.1.1 *Wh*-phrases must occur in the IAV position

The important argument for the claim that focus falls on IAV in literature is that *wh*-phrases, including *wh*-objects and *wh*-adjuncts are required to occur in the IAV position (e.g. Zerbian 2006, Sabel & Zeller 2006 and Cheng & Downing 2009). *Wh*-phrases have a [+Focus] feature inherently; therefore, the requirement of *wh*-phrases in IAV suggests that the IAV must be [+Focus]. In Xhosa, *wh*-objects and their corresponding answer follow the verb immediately, and crucially the sentence must be in the conjoint form, as illustrated in (2-5).

- (2) a. U-tata u-beth-e *bani* i-zolo?
 aug-1.father sm1-beat-prf 1.who aug-5.yesterday
 ‘Who did the father beat yesterday?’
- b. *U-tata u-beth-e i-zolo *bani*?
 aug-1.father sm1-beat-prf aug-5.yesterday 1.who
- c. **Bani* u-tata u-beth-e i-zolo?
 1.who aug-1.father sm1-beat-prf aug-5.yesterday
- d. *U-tata u-m-beth-ile *bani* i-zolo?
 aug-1.father sm1-om1-beat-dis.prf 1.who aug-5.yesterday
- (3) a. U-mamel-e *ntoni* e-gumbi-ni?
 2sg-listen-prf 9.what loc-9.room-loc
 ‘What are you listening to in the room?’
- b. *U-mamel-e e-gumbi-ni *ntoni* ?
 2sg-listen-prf loc-9.room-loc 9.what
- c. **Ntoni* u-mamel-e e-gumbi-ni?
 9.what 2sg-listen-prf loc-9.room-loc
- d. *U-yi-mamel-e³³ *ntoni* e-gumbi-ni?
 2sg-om9-listen-dis.prf 9.what loc-9.room-loc
- (4) Q: U-tata u-beth-e *bani* i-zolo?
 aug-1.father sm1-beat-prf 1.who aug-5.yesterday
 ‘Who did the father beat yesterday?’
- A₁: U-beth-e *u-Sipho* i-zolo.
 3sg-beat-prf aug-1.Sipho aug-5.yesterday
 ‘He beat SIPHO (yesterday).’
- A₂: *U-beth-e izolo *u-Sipho*.
 3sg-beat-prf aug-5.yesterday aug-1.Sipho
 Intended: ‘He beat SIPHO yesterday.’
- A₃: *U-m-beth-ile *u-Sipho* izolo.
 3sg-om1-beat-dis.prf aug-1.Sipho aug-5.yesterday
 Intended: ‘He beat SIPHO (yesterday).’

³³ The verb *mamela* ‘to listen’ has the same form (i.e. *mamele*) for the conjoint and the disjoint form in the perfect tense (see Footnote 28).

- (5) Q: U-mamel-e *ntoni* e-gumbi-ni?
 2sg-listen-prf 9.what loc-9.room-loc
 ‘What are you listening to in the room?’
- A₁: Ndi-mamel-e *ii-ndaba* e-gumbi-ni.
 1sg-listen-prf aug-10.news loc-9.room-loc
 ‘I am listening to NEWS in the room.’
- A₂: *Ndi-mamel-e e-gumbi-ni *ii-ndaba*.
 1sg-listen-prf loc-9.room-loc aug-10.news
 Intended: ‘I am listening to NEWS in the room.’
- A₃: *Ndi-zi-mamel-e *ii-ndaba* e-gumbi-ni.
 1sg-om10-listen-dis.prf aug-10.news loc-9.room-loc
 Intended: ‘I am listening to NEWS (in the room).’

In (2a), the *wh*-object occurs in the IAV position and the sentence is thus grammatical. In (2b) the *wh*-object follows the temporal adverbial *izolo* ‘yesterday’ and in (2c) it appears in the sentence-initial position. Consequently, neither of these two sentences is grammatical. In (19d), the disjoint marker occurs. Although the object follows the verb on the surface, the sentence is not grammatical. Likewise, the sentences in (3) confirm that *wh*-objects must follow the verb immediately in the conjoint form as in (3a). (4) and (5) illustrate that in the corresponding answer, the object must occur in the IAV position (4A₁ & 5A₁). It is not grammatical for the object to follow the temporal/locative adverbials (4A₂ & 5A₂) or occur in the disjoint form (4A₃ & 5A₃).

Like *wh*-objects, *wh*-adjuncts and their corresponding answer must appear in the IAV position as well, as illustrated in (6-10).

- (6) a. U-yi-theng-e *nini* i-moto?
 2sg-om9-buy-prf when aug-9.car
 ‘When did you buy the car?’
- b. *U-yi-theng-e i-moto *nini*?
 2sg-om9-buy-prf aug-9.car when
- c. **Nini* u-yi-theng-e i-moto?
 when sm-om9-buy-prf aug-9.car
- d. *U-yi-theng-ile *nini* i-moto?
 2sg-om9-buy-dis.prf when aug-9.car

- (7) a. U-si-fund-a *phi* i-si-Xhosa?
 2sg-om7-study-fv where aug-7-Xhosa
 ‘Where do you study Xhosa?’
- b. *U-si-fund-a i-si-Xhosa *phi*?
 2sg-om7-study-fv aug-7-Xhosa where
- c. **Phi* u-si-fund-a i-si-Xhosa?
 where 2sg-om7-study-fv aug-7-Xhosa
- d. *U-ya-si-fund-a *phi* i-si-Xhosa?
 2sg-dis.prs-om7-study-fv where aug-7-Xhosa
- (8) Q: U-yi-theng-e *nini* i-moto?
 2sg-om9-buy-prf when aug-9.car
 ‘When did you buy a/the car?’
- A₁: Ndi-yi-theng-e i-zolo i-moto.
 1sg-om9-buy-prf aug-5.yesterday aug-9.car
 ‘I bought the car YESTERDAY.’
- A₂: *Ndi-yi-theng-e i-moto i-zolo.
 1sg-om9-buy-prf aug-9.car aug-5.yesterday
 Intended: ‘I bought the car YESTERDAY.’
- A₃: *Ndi-yi-theng-ile i-zolo i-moto.
 1sg-om9-buy-dis.prf aug-5.yesterday aug-9.car
 Intended: ‘I bought (it) YESTERDAY.’
- (9) Q: U-si-fund-a *phi* i-si-Xhosa?
 2sg-om7-study-fv where aug-7-Xhosa
 ‘Where do you study Xhosa?’
- A₁: Ndi-si-fund-a e-Rhini i-si-Xhosa.
 1sg-om7-study-fv loc-Grahamstown aug-7-Xhosa
 ‘I study Xhosa in GRAHAMSTOWN.’
- A₂: *Ndi-si-fund-a i-si-Xhosa e-Rhini.
 1sg-om7-study-fv aug-7-Xhosa loc-Grahamstown
 Intended: ‘I study Xhosa in GRAHAMSTOWN.’
- A₃: *Ndi-ya-si-fund-a e-Rhini i-si-Xhosa.
 1sg-dis.prs-om7-study-fv loc-Grahamstown aug-7-Xhosa
 Intended: ‘I study Xhosa in GRAHAMSTOWN.’

- (10) U-theng-e i-moto *nini*?
 2sg-buy-prf aug-9.car when
 ‘You bought a car when?’

In (6a), the *wh*-adjunct *nini* ‘when’ appears in the IAV position. The object is dislocated out of vP by object-marking. The sentence is well-formed. In (6b) the *wh*-adjunct follows the object-marked DP and in (6c) it appears in the sentence-initial position. These two sentences are ungrammatical. The sentence in (6d) is not grammatical either since it is in the disjoint form. Similarly, (7) shows that the *wh*-adjunct *phi* ‘where’ must occur in the IAV position as well (7a); otherwise, it is ungrammatical (7b, c & d). (8) and (9) illustrate that the reply to the *wh*-adjuncts *nini* ‘when’ and *phi* ‘where’ are required to occur in the IAV position, respectively (8A₁ & 9A₁). It should point out that the sentences in (8A₃) and (9A₃) are grammatical on their own, but are not appropriate to use under this context. In (10), the *wh*-adjunct *nini* ‘when’ follows the object. This sentence is grammatical, but it is used as an echo question rather than a direct question of the temporal adjunct.

In addition, as has been mentioned in Section 6.1.2, in Xhosa the canonical order of Double Object constructions is S-V-IO-DO. However, when the direct object is a *wh*-phrase, it must occur in the IAV position. The indirect object is dislocated out of vP by object marking. Consider the examples (11-12).

- (11) a. U-Sipho u-ba-nik-e *ntoni* a-ba-fundi?
 aug-1.Sipho sm1-om2-give-prf 9.what aug-2-student
 ‘What did Sipho give to the students?’

- b. *U-Sipho u-nik-e a-ba-fundi *ntoni*?
 aug-1.Sipho sm1-give-prf aug-2-student 9.what
 Intended: ‘What did Sipho give to the students?’

- (12) Q: U-Sipho u-ba-nik-e *ntoni* a-ba-fundi?
 aug-1.Sipho sm1-om2-give-prf 9.what aug-2-student
 ‘What did Sipho give to the students?’

- A₁: U-Sipho u-ba-nik-e *ii-ncwadi* a-ba-fundi.
 aug-1.Sipho sm1-om2-give-prf aug-10.book aug-2-student
 ‘Sipho gave BOOKS to the students.’

- A₂: *U-Sipho u-nik-e a-ba-fundi *ii-ncwadi*.
 aug-1.Sipho sm1-give-prf aug-2-student aug-10.book
 Intended: ‘Sipho gave BOOKS to the students.’

A₃: *U-Sipho u-zi-nik-e a-ba-fundi *ii-ncwadi*.
 aug-1.Sipho sm1-om10-give-prf aug-2-student aug-10.book
 Intended: ‘Sipho gave BOOKS to the students.’

In (11a), the *wh*-phrase *ntoni* ‘what’ occurs in the IAV position. The sentence is thus grammatical. In (11b), *ntoni* ‘what’ remains in the original direct object position and the sentence is not appropriate for expressing the intended meaning. Instead, it can only be used as an echo question. The sentences in (12) show that the reply to the *wh*-phrase direct object must appear in the IAV position (12A₁). The sentence in (12A₂) and (12A₃) are both grammatical on their own, but they are inappropriate for adoption as the answer for the question.

7.1.1.2 Contrastively focused constituents in the IAV position

van der Wal (2006) observes that in Makhuwa, when the object is contrastively focused, it occurs in the IAV position compulsorily. Like in Makhuwa, in Xhosa, an object or an adjunct is required to occur in the IAV position when it is contrastively focused. Consider the following examples.

- (13) a. U-John u-hlamb-e *i-moto ya-khe* kakuhle.
 aug-1.John sm1-wash-prf aug-9.car 9.poss-3sg well
 ‘John washed HIS CAR well (not his bike)’.
- b. U-John u-yi-hlamb-e *kakuhle* i-moto yakhe
 aug-1.John sm1-om9-wash-prf well aug-9.car 9.poss-3sg
 ‘John washed his car WELL (not badly)’.
- (14) a. Ndi-fund-e *i-si-Xhosa* e-Rhini.
 1sg-study-prf aug-7-Xhosa loc-Grahamstown
 ‘I studied XHOSA in Grahamstown (not Zulu).’
- b. Ndi-si-fund-e *e-Rhini* i-si-Xhosa.
 1sg-om7-study-prf loc-Grahamstown aug-7-Xhosa
 ‘I studied Xhosa in GRAHAMSTOWN (not in Cape Town).’
- (15) a. U-tata u-beth-e *u-Sipho* nge-ntonga.
 aug-1.father sm1-beat-prf aug-1.Sipho by.9-stick
 ‘The father beat SIPHO (not John) with a stick.’
- b. U-tata u-m-beth-e *nge-ntonga* u-Sipho.
 aug-1.father sm1-om1-beat-prf by.9-stick aug-1.Sipho

‘The father beat Siphó WITH A STICK (not with hands).’

In (13a), the object *imoto yakhe* ‘his car’ appears in the IAV position. This sentence is interpreted as meaning that it is his car, not his bike that John washed. It should note that this sentence can also have a broad focused reading, which is also called the presentational focus (e.g. Whiteley & Mganga 1969, Whiteley 1972, Demuth & Mmusi 1997 and Sasse 2006). The whole *vP* conveys non-presupposed information. In (13b), the object is dislocated outside of *vP*. The manner adverbial *kakuhle* follows the verb immediately and it consequently receives contrastive focus. Similarly, in (14a) the object is contrastively focused and the sentence means that it is Xhosa that I studied. In (14b), the contrastive focus falls on the locative. Likewise, while the object is focused in (15a), in (15b) the preposition phrase *ngentonga* ‘with a stick’ is focused.

7.1.1.3 The focused subject in inversion constructions

The inversion construction is one of the most prevailing constructions in Bantu languages (Marten & van der Wal 2014). It has been found in Kinyarwanda (Kimenyi 1980), Chichewa (Bresnan & Kanerva 1989 and Bresnan 1994), Sesotho (Demuth 1990 and Demuth & Mmusi 1997), Northern Sotho (Zerbian 2006), Otjiherero (Marten 2006), Ndebele (Khumalo 2010), Tswana (Creissels 2011) and Zulu (Zeller 2012a, 2013 and van der Wal 2008, 2012) among others. The typical word order in Bantu languages is S-V-O, however, in inversion constructions, the verb precedes the logical subject. The subject marker does not agree with the logical subject, but agrees with the preverbal object or the semantic inert expletive is inserted. As a result, the word order in inversion constructions is O-V-S or V-S-O. The contrast is illustrated in (16) and (17).

(16) a. U-Siphó u-fík-ile.

aug-1.Siphó sm1-arrive-dis.prf

‘Siphó arrived.’

b. Ku-fík-e u-Siphó.

Expl.17-arrive-prf aug-1.Siphó

‘SIPHÓ (not John) arrived.’

(17) a. U-John u-theng-e i-moto.

aug-1.John sm1-buy-prf aug-9.car

‘John bought A CAR (not a bike).’

- b. *Ku-theng-e u-John i-moto.*
 Expl.17-buy-prf aug-1.John aug-9.car
 ‘JOHN (not Siphó) bought a car.’

The sentence in (16a) is in the canonical word order: the subject precedes the verb. There is no constituent in the IAV position; hence, the disjoint form is required. In (16b), the logical subject *uSiphó* appears in the IAV position. The expletive *ku* serves as the subject marker. In (17b), the logical subject follows the verb immediately and the subject marker agrees with the preverbal object.

What I am concerned with here is that in inversion constructions, the postverbal subject is focused. For example, in (16a), the subject typically serves as a topic. However, in (16b), the postverbal subject receives a focused reading. The sentence means that it is Siphó who arrived. It is appropriate to use in the context where the speaker and/or the hearer know someone arrived, but they don’t know who. In (17a), the object appears in the IAV position and consequently it is focused. In contrast, in (17b), the focus falls on the postverbal subject.

Demuth (1990) claims that in Bantu languages, the subject must be highly topical. *Wh*-phrases are prohibited in the preverbal subject position owing to their [+Focus] feature, which does not comply with the [+Topic] feature of the preverbal subject position. The cleft construction is required in order to question the subject. This observation holds true in Xhosa, as illustrated in (18).

- (18) a. **bani u-z-is-a ii-nkomo ukuba zi-zo-seng-w-a?*
 1.who sm1-om10-bring-fv aug-10.cow comp sm10-fut-milk-pass-fv
 Intended: ‘who is bringing the cows to milk?’
 b. *Ngu-bani o-z-is-a ii-nkomo ukuba zi-zo-seng-w-a?*
 copu-1.who rel.1-om10-bring-fv aug-10.cow comp sm10-fut-milk-pass-fv
 ‘It is who that is bringing the cows to milk?’

In (18a), the *wh*-phrase *ubani* ‘who’ appears in the preverbal subject position and the sentence is thus ungrammatical. The cleft construction must be used in this case (18b).

However, *wh*-phrase subjects can occur in the postverbal subject position in inversion constructions in Bantu languages like Aghem (Watters 1979, Hyman & Watters 1984 and Hyman 1979, 2005), Chichewa (Bresnan & Kanerva 1989 and Bresnan 1994), Kirundi (Ndayiragije 1999), Sotho (Demuth & Mmusi 1997)

and Zulu (van der Spuy 1993, Cheng & Downing 2009, 2012 and Zeller 2013). Cross-linguistically, Jayaseelan (2001) shows the same construction in Malayalam. Jayaseelan claims that in Malayalam, which is an S-O-V language, the *wh*-phrase subject may not occur in the subject position and the cleft construction is required to question the subject in an S-O-V sentence, however, a *wh*-subject can occur in the position immediately preceding the verb, in which the direct object appears, as illustrated below.

- (19) a. **aarə* iinn-e aTiccu?
 who you-acc beat.pst
 Intended: ‘who beat you?’
 b. Ninn-e *aarə* aTiccu?
 you-acc who beat.pst
 ‘Who beat you?’

[Malayalam, Jayaseelan 2001: (1)]

In (19a), *aarə* ‘who’ occurs in the subject position and the sentence is ungrammatical. The sentence in (19b) is well-formed as the *wh*-phrase subject appears in the object position.

Likewise, in Xhosa, the *wh*-subject is allowed to appear in the IAV position, as shown in (20-21).

- (20) Ku-fik-e *bani* ?
 Expl.17-arrive-prf 1.who
 ‘Who arrived?’
 (21) I-moto i-hamb-a *bani*?
 aug-9.car sm9-walk-fv 1.who
 ‘Who is using the car?’

In (20) and (21), *bani* ‘who’ appears in the IAV position. Consequently, both sentences are grammatical. The compatibility of the *wh*-phrase subject and IAV in inversion constructions suggests that the IAV position is focused.

To recapitulate, the above has presented that (i) in Xhosa *wh*-phrases, including *wh*-objects and *wh*-adjuncts, must occur in the IAV position in interrogatives. (ii) A contrastively focused constituent is required to appear in the IAV position. (iii) The postverbal subject in inversion constructions is focused. These three arguments lead us to conclude that the IAV position is focused in Xhosa.

7.1.2 The focused verb in the disjoint form

Givón (1975) proposes that in Zulu, the verb is the only new information in the disjoint form. Among others Guldemann (1996) and Voeltz (2004) further confirm that in Zulu the verb is focused in the disjoint form. Based on the literature, let us look at the disjoint form in Xhosa in respect of focus. Firstly, except the verb, other *vP*-internal constituents are all dislocated outside of *vP* in the disjoint form, which will be discussed in Section 8.1.2. In other words, the verb is the only element that is left in the *vP* domain. To be specific, intransitive verbs must occur in the disjoint form if no adjunct appears. For transitive verbs, although there are constituents such as the object and adjuncts following the verb on the surface, they are all dislocated out of *vP* obligatorily. Consider the following examples.

- (22) a. *U-Sipho u-lil-a. (Conjoint form)
 aug-1.Sipho sm1-cry-fv
 Intended: ‘Sipho is crying.’
- b. U-Sipho u-ya-lil-a. (Disjoint form)
 aug-1.Sipho sm1-dis.prs-cry-fv
 ‘Sipho is crying.’
- (23) a. U-Sipho u-si-theng-ile i-s-onka. (Disjoint form)
 aug-1.Sipho sm1-om7-buy-dis.prf aug-7-bread
 ‘Sipho bought the bread.’
- b. *U-Sipho u-theng-ile i-s-o:nka). (Disjoint form)
 aug-1.Sipho sm1-buy-dis.prf aug-7-bread
 Intended: ‘Sipho bought the bread.’

(22a) is ungrammatical as the sentence is in the conjoint form, but no element appears in the IAV position. In this case, the disjoint form must be adopted (22b). In (23a), the object marker is prefixed to the verb and the object is thereby dislocated to an *vP*-external position. This means that there is no element in the IAV position. As a result, the disjoint is used. In (23b), no object marker occurs and the object thus remains inside *vP*. Consequently, it is ungrammatical to use the disjoint form. This shows that in the disjoint form, no element is allowed to occur in the IAV position. To put it differently, the verb is the only constituent left in the *vP* domain.

As a result, in the disjoint form, instead of IAV, the verb is focused. The dislocated object and adjuncts refer to background information which is already mentioned in the discourse or is known to the speaker and/or the hearer. Consider the examples below.

(24) Q: U-yi-theng-ile le moto?

2sg-om9-buy-dis.prf dem.9 9.car

‘Did you BUY a/the car?’

A₁: Hayi, a-ndi-yi-theng-anga, ndi-yi-qesh-ile.

no neg-1sg-om9-buy-prf.neg 1sg-om9-hire-dis.prf

‘No, I did not BUY it. I HIRED it.’

A₂: *Hayi, a-ndi-theng-anga le moto, ndi-qesh-e i-moto.

no neg-1sg-buy-prf.neg dem.9 9.car 1sg-hire-prf aug-9.car

Intended: ‘No, I did not BUY it. I HIRED it.’

(25) Q: U-ba-gxek-ile a-ba-fundi?

2sg-om2-criticise-dis.prf aug-2-student

‘Did you CRITICISE the students?’

A₁: A-ndi-ba-gxek-anga, ndi-ba-ncom-ile.

neg-1sg-om2-criticise-prf.neg 1sg-om2-praise-dis.prf

‘I did not CRITICISE them. I PRAISED them.’

A₂: *A-ndi-ba-gxek-anga, ndi-ncom-e a-ba-fundi.

neg-1sg-om2-criticise-prf.neg 1sg-praise-prf aug-2-student

Intended: ‘I did not CRITICISE them. I PRAISED them.’

A₃: A-ndi-ba-gxek-anga, ndi-gxek-e oo-Titshala.

neg-1sg-om2-criticise-prf.neg 1sg-criticise-prf aug-2.teacher

‘I did not criticise them. I criticised TEACHERS.’

A₄: *A-ndi-ba-gxek-anga, ndi-ba-gxek-ile oo-Titshala.

neg-1sg-om2-criticise-prf.neg 1sg-om2-criticise-dis.prf aug-2.teacher

Intended: ‘I did not criticise them. I criticised TEACHERS.’

In (24Q) the sentence is in the disjoint form and the object-marked DP is dislocated out of vP. In (24A₁), the disjoint form is used in both clauses. This sentence means that the speaker did not buy, but rent a/the car. The verbs receive a contrastively focused reading and consequently, it is appropriate for answering the question. In contrast, in (24A₂) these two clauses are in the conjoint form and the focus falls on the object. As a result, the sentence is not licit to reply to the question though it is grammatical on its own. Similarly,

in (25Q) the disjoint form is adopted. In (25A₁), the contrastive focus falls on the verb in the disjoint form and it indicates that the speaker did not criticise, but praised the students; hence, it is completely appropriate for answering the question. In (25A₂), the second clause is in the conjoint form and the object is thus focused. Consequently, the sentence is not appropriate for answering this question. In contrast, the second clause in (25A₃) indicates that it is not the students, but the teachers that I criticized. As a result, it is appropriate to use for answering the question. In this case, it is not acceptable to use the disjoint form (25A₄). Here it shows that while the IAV receives a focused reading in the conjoint form, in the disjoint form the verb is focused.

In summary, this section shows that in the conjoint form, the constituent in the IAV position - a subject, an object or an adjunct - is focused and in the disjoint form the verb is focused. This property suggests that Xhosa is a syntax-dominant language in terms of focus marking. Consequently, the question that follows is how focus is derived in Xhosa, which will be discussed in the next two sections.

7.2 Previous frameworks on focus in Bantu languages

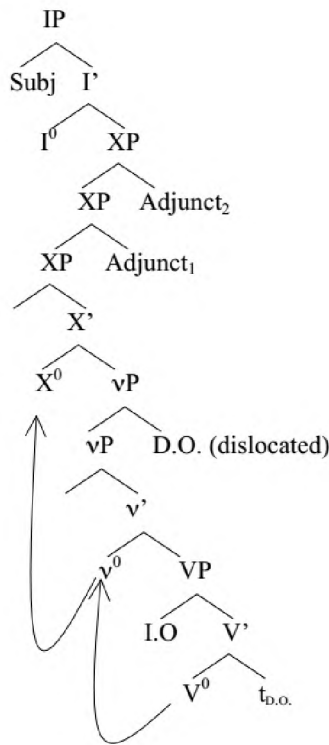
In literature, there are two different opinions on how focus is realized in Bantu languages. While some linguists (e.g. Ndayiragije 1999 for Kirundi; Van der Wal 2006 for Makhuwa; Sabel & Zeller 2006 for Nguni and Aboh 2007 for Bantu languages) claim that there is a FocP in the syntactic structure and the focused constituent moves to [Spec, FocP] to realize focus, some (e.g. Zerbian 2006 for North Sotho and Cheng & Downing 2009, 2012 for Zulu) argue that focus is realized *in situ*. In what follows, I provide an overview of these two analyses and show their advantages and disadvantages, based on which I will propose my analysis of focus in Xhosa in the next section.

7.2.1 Cheng & Downing's focus *in situ* hypothesis

Cheng & Downing (2009, 2012) claim that in Zulu there is no FocP. More specifically, they argue that Zulu does not allow clause-initial focus; hence, there is no FocP under CP. The evidence for this claim is that *wh*-phrases, which have a [+ Focus] feature inherently, are prohibited in the preverbal subject position. They claim that FocP in the left periphery of vP is not possible either. Their arguments against the low FocP assumption include the prosodic boundary and the dislocation of non-focused elements. In Zulu, the element at IAV must be parsed in the same prosodic and syntactic phrase as the verb. Cheng & Downing (2012) argue that if the focused element moves to [Spec, FocP], the IAV should be parsed separately to the

verb. Instead, they propose that in Zulu non-focused elements move out of vP , leaving focused elements *in situ*. This is schematically represented in (26).

(26) The focus *in situ* assumption



(Cheng & Downing 2012: (21))

The structure in (26) shows that the non-focused direct object is dislocated out of vP , leaving the indirect object *in situ*. The verb moves out of vP for some independent reason. With regard to adjuncts, Cheng & Downing (2012) argue that when an adjunct is not focused, it is adjoined to vP . When focused, it is located in the outer specifier of vP .

Cheng & Downing (2012) adopt Kratzer & Selkirk's (2007) High Phrase Condition to account for how focus is derived in Zulu. High Phrase Condition postulates that focus is licensed within the highest phrase in the minimal XP in the vP phase (Cheng & Downing 2012: (24)). In Zulu, non-focused elements move out of vP , leaving the focused constituent at the topmost phrase of vP . As a result, focus falls on the *in situ* constituent.

Cheng & Downing's assumption has several advantages. First, it captures the prosodic property. In the conjoint form, the focused element at IAV and the verb are parsed in one single prosodic phrase. In the disjoint form, the verb is parsed separately to the following element. Second, as I have already demonstrated

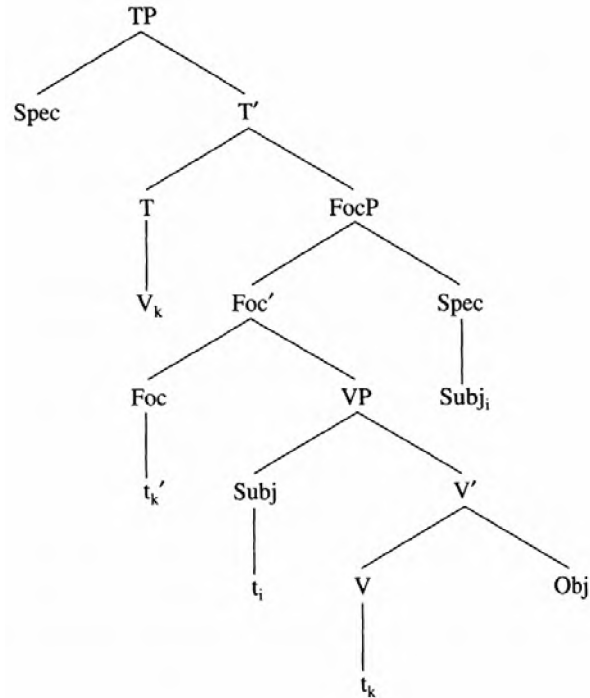
in the preceding sections, non-focused constituents such as object-marked DPs and adjuncts are indeed located in a vP -external position.

However, Cheng & Downing's analysis faces some empirical and theoretical challenges as well. First, as I have shown that focus falls on the verb in the disjoint form (Section 7.1.2). Cheng & Downing's assumption cannot account for the focused verb since the verb moves to X^0 , which is located out of vP as shown in the structure (26). Second, in order to ensure the right word order, Cheng & Downing assume that non-focused constituents including objects or adjuncts are right-adjacent to vP or to XP . Theoretically, this violates Kayne's (1994) LCA, under which no right-adjunction is allowed in a head-initial language.

7.2.2 The movement to [Spec, FocP] hypothesis

Unlike Cheng & Downing (2009, 2012), many studies argue that there is a FocP structurally and the focused constituent moves to [Spec, FocP] to satisfy the [+Focus] feature. For example, based on the focused object in S-V-O constructions and the focused subject in V-S constructions, Ndayiragije (1999) proposes that in Kirundi, there is a FocP between TP and vP . The focused element moves to [Spec, FocP] to check the strong [+Focus] feature. More specifically, in S-V-O constructions, the object moves to [Spec, FocP] to realize focus. The subject moves to [Spec, TP] to check the EPP feature on TP. The verb raises to T^0 to check the [T] feature. In V-S constructions, the subject moves to [Spec, FocP] to check the strong [+Focus] feature. The semantic inert expletive is inserted to satisfy the EPP feature. The structure of V-S constructions is represented in (27).

(27) The structure of V-S constructions in Kirundi



(Ndayiragije 1999: (2))

The structure in (27) illustrates that the subject moves to [Spec, FocP] to satisfy the [+Focus] feature and V^0 moves to T^0 to check the [T] feature. Consequently, the subject follows the verb.

Ndayiragije's (1999) analysis captures the focus in the conjoint form in Kirundi, however, he does not discuss the disjoint form. If Kirundi holds the same effect in the disjoint form as other Bantu languages in terms of focus, i.e. the verb is focused, Ndayiragije's assumption cannot account for the focused verb. It is not possible that the verb first moves to the specifier of FocP and then to the head to TP due to the condition on head movement. In addition, as (27) shows, Ndayiragije assumes that the specifier of FocP is right-adjoined to its head, whereas the specifier of TP and VP are left-adjoined to their head. This violates Kayne's (1994) LAC, which strictly requires that the specifier precedes its head.

van der Wal (2006) proposes that there are two FocPs, namely the high FocP under TP and the low FocP under ν P. In the conjoint form, a focused object or adjunct moves to [Spec, FocP_{low}] to realize focus. The verb moves to ν^0 and the head movement stops there (cf. (28)). In the disjoint form, the disjoint marker is spelt out at the high FocP⁰ and merges with the verb morphologically. Consequently, the verb receives focus (cf. (29)). van der Wal further argues that these two FocPs are complementary. When the specifier of the low FocP is filled by a focused constituent, the higher FocP is null. When the specifier of the low FocP

is empty, the disjoint marking at the higher FocP⁰ is spelt out and non-focused elements remain in-situ. The contrast between the conjoint and the disjoint form is schematically represented below.

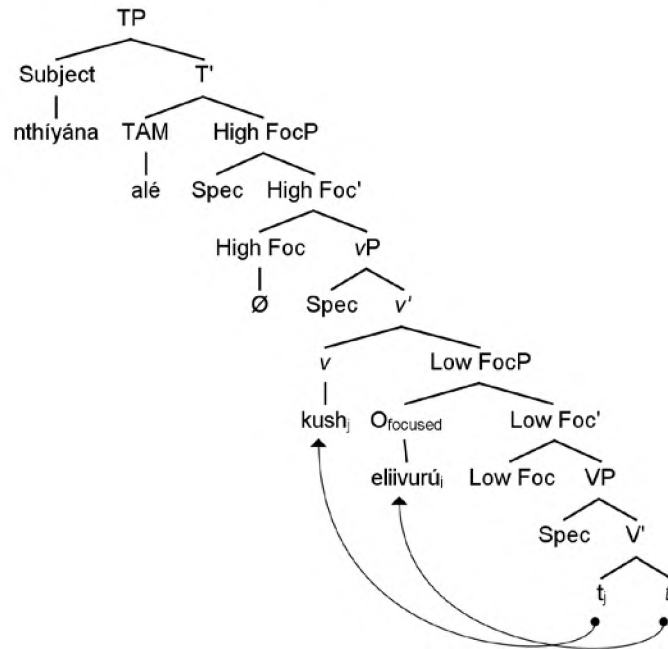
(28) a. nthiyána o-kush-alé eliivurú.

1.woman sm1-carry-prf 9.book

‘The/a women carried a/the book.’

[Makhuwa, van der Wal 2006: (15)]

b. van der Wal’s analysis on focus in the conjoint form



(Adapted from van der Wal 2006: (16))

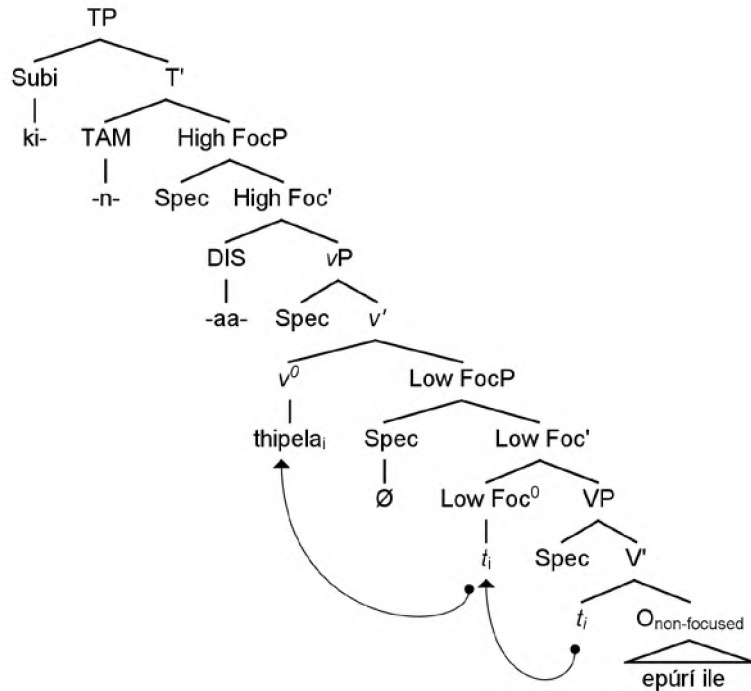
(29) a. Ki-náá-thípelá epúrí ile.

1sg-prs.dis-bury 9.goat 9.dem

‘I am burying that goat.’

[Makhuwa, van der Wal 2006: (31)]

b. van der Wal's analysis on focus in the disjoint form



(Adapted from van der Wal 2006: (32))

In (28), the object moves to the specifier of the low FocP and consequently it receives a focused reading. Since the [+Focus] feature of FocP_{low} is satisfied, the higher FocP is null. In (29), the object is not focused; hence, it cannot move to [Spec, FocP_{low}]. This means that the specifier of the low FocP is empty. As a result, the head of the higher FocP is spelt-out (i.e. the disjoint marker) and it merges with the verb. Consequently, the verb is focused.

van der Wal (2006) considers that these two FocPs undergo different operations. The high FocP morphologically merges with the verb without movement, whereas the focused object or adjunct must move to [Spec, FocP_{low}]. In the spirit of Halle & Marantz's (1993) and Fuß's (2005) Structural Adjacency, which states that a terminal node X and the closet terminal node Y c-commanded by X are structurally adjacent (van der Wal 2006: 248), van der Wal argues that the high FocP is in the IP domain; hence, it displays the same syntactic process as the inflectional morphemes and merges with the verb morphologically. However, the low FocP is in the vP domain in which the verb moves to v⁰ and consequently, the focused object or adjunct moves to [Spec, FocP_{low}] to satisfy the [+Focus] feature.

van der Wal's (2006) analysis is perhaps adequate to account for focus in Makhuwa, but it faces serious challenges when it comes to focus in Xhosa. First, as already mentioned earlier, in many Bantu languages,

including Xhosa, in the disjoint form the object is dislocated and it can float freely. According to van der Wal, non-focused elements are *in situ*. That is to say, the object in the disjoint form remains inside *vP*. If this is the case, it is difficult to explain why it can move freely.

Second, as it has been already shown, in Xhosa, the constituents following the verb are parsed into a separate prosodic and syntactic phrase from the verb in the disjoint form. However, according to the structure in (29b), the verb is located at v^0 and the object remains in *vP*. We would expect that the verb is encoded in the same prosodic and syntactic phrase as non-focused object and adjunct. This contradiction suggests that the structure in (29b) does not hold true in Xhosa.

Third, van der Wal argues that the disjoint marker occupies the head of the high FocP. It is spelt out in the disjoint form and merges with the verb. However, in Xhosa, while the disjoint marker is prefixed to the verb in the present tense, it is suffixed to the verb in the perfect tense, as illustrated in (30).

- (30) a. Ndi-ya-si-fund-a i-si-Xhosa.
 1sg-dis.prs-om7-learn-fv aug-7-Xhosa
 ‘I learn/am learning Xhosa.’
- b. Ndi-si-fund-ile i-si-Xhosa.
 1sg-om7-learn-dis.prf aug-7-Xhosa
 ‘I learnt/have learnt Xhosa.’

The two sentences in (30) are both in the disjoint form. In (30a) the disjoint marker *-ya-* occurs at the left of the verb, whereas in (30b) the disjoint marker *-ile* at the right of the verb. The difference in the distribution of these two disjoint markers argue against van der Wal’s assumption. If disjoint marking occupies the head of the higher FocP, it should, regardless of the tenses, occur in a fixed position relative to the verb.

In line with Rizzi (1997) and Belletti (2004), Aboh (2007) proposes that topic and focus are encoded in either the peripheral domain above IP or in the peripheral domain above *vP*. According to the distribution of focus, Aboh argues that while topic and focus in Kwa languages are realized in the peripheral domain above IP, in Bantu languages topic and focus are encoded in both the clausal periphery and the *vP*-periphery. Aboh further argues that the clausal periphery hosts scrambled constituents out of the *vP*, whereas the *vP*-periphery hosts focused constituents like the postverbal subject. The *vP*-periphery is shown in (31).

(31) AspP < FocusP < (TopicP) < vP < VP

(Aboh 2007: (38))

Aboh proposes that in the conjoint form, the focused constituent, the object, subject or adjunct, moves to [Spec, FocP] in the vP-periphery domain and the verb moves to AspP to check the [asp] feature. Consequently, the focused constituent appears in the IAV position, as illustrated in (32) and (33).

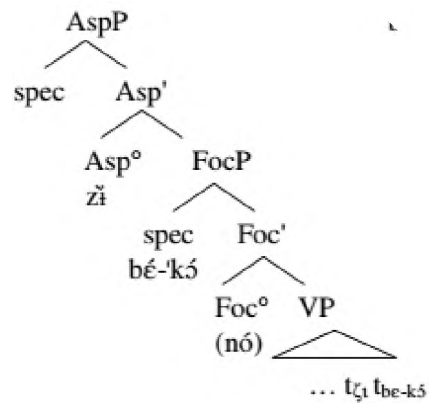
(32) a. Tí-bvú tì-bìghà mɔ zì bε-kɔ (nó).

dogs two pst eat fufu foc

‘The two dogs ate FUFU.’

[Aghem, Aboh 2007: (29)]

b.



(Aboh 2007: (36a))

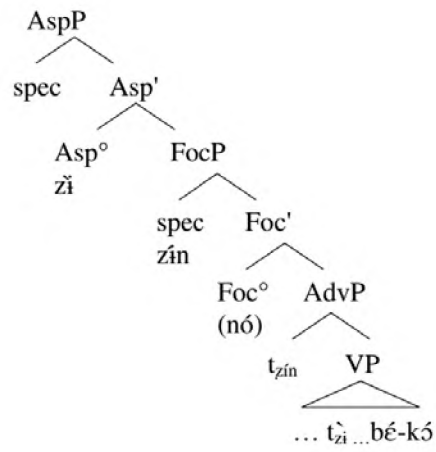
(33) a. Tí-bvú tì-bìghà mɔ zì zín (nó) bε-kɔ.

dogs two pst eat when foc fufu

‘When did the two gods eat Fufu?’

[Aghem, Aboh 2007: (25a)]

b.



(Aboh 2007: (36b))

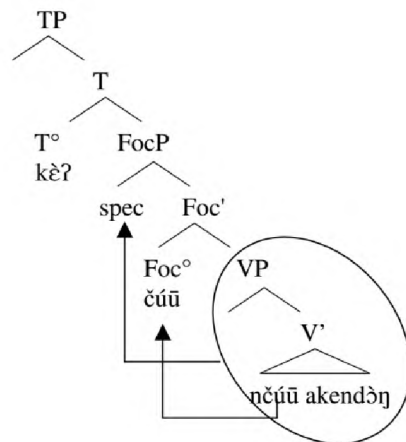
In (32a), the object occurs in the IAV position and it is focused. The structure in (32b) provides the derivation of the focused object. The object moves to [Spec, FocP] to satisfy the [+Focus] feature. The verb moves to Asp⁰. Consequently, the sentence ends up with the right word order. In (33a), the *wh*-adjunct appears immediately after the verb. The structure in (33b) illustrates that in this case, the *wh*-adjunct moves to [Spec, FocP] to realize focus and the object remains in *v*P.

With regard to the focused verb, Aboh proposes that in languages like Gungbe (Kwa) and Tuki (Bantu), the focused VP moves to the specifier of the FocP in the clausal periphery domain, whereas in languages like Nweh (Grassfield Bantu), the focused VP moves to the specifier of the FocP in the VP periphery, as illustrated in (34).

- (34) a. Atem a kɛʔ nčúū akendòŋ čúū
 atem agr pl boil plantains ø-boil
 ‘Atem BOILED plantains.’

[Nweh, Aboh 2007: (49a)]

b.



(Aboh 2007: (51))

In (34a), the verb is focused. Following Nkemnji (1995), Aboh argues that the focused verb moves to the head of the low FocP, and then the entire VP moves to [Spec, FocP]. The sentence ends up with doubling verbs.

Aboh's (2007) low FocP assumption successfully captures the properties of focus in Bantu languages, at least in Xhosa. The focus site in Xhosa, i.e. the IAV position, does not occur in a position in the clausal periphery, but occupies a lower position. Yet, Aboh's (2007) analysis also faces some problems. First, as Cheng & Downing (2009) have pointed out, the focused element and the verb are parsed in one single prosodic and syntactic phrase, whereas non-focused elements are parsed separately from the verb. Aboh's

analysis fails to account for the prosodic and syntactic contrast between the focused and non-focused constituents. Second, I have argued in Section 6.1.5 that AspP and AgrOP are located in the ν P domain and the verb does not move out of ν P in Xhosa.

To sum up, this section has presented the two different assumptions on focus in Bantu languages. Each has its advantages and challenges. Based on these advantages and challenges, in the following section, I am going to explore how focus is derived in Xhosa.

7.3 FocP at the ν P left periphery in Xhosa

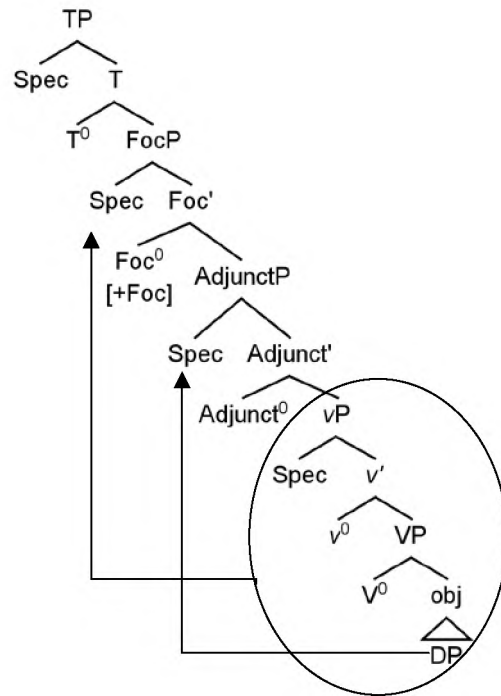
In line with Aboh (2007), I argue that there is a FocP in the ν P periphery in Xhosa. However, unlike Aboh's (2007) analysis in which a focused item moves to [Spec, FocP] in the conjoint form, I propose that ν P moves to [Spec, FocP] in both the conjoint form and the disjoint form to realize focus. Before ν P-to-[Spec, FocP], apart from the verb, all the non-focused elements are dislocated out of ν P. The generalization of ν P-to-[Spec, FocP] is shown in (35).

(35) ν P-to-[Spec, FocP] in Xhosa

- (i) There is a FocP at the left periphery of ν P, which bears a strong [+Focus] feature.
- (ii) ν P moves to [Spec, FocP] to satisfy the [+Focus] feature.
- (iii) Apart from the verb, all non-constituents must move out of ν P before ν P-to-[Spec, FocP].

The ν P-to-[Spec, FocP] movement in Xhosa is schematically represented in (36).

(36) *vP*-to-[Spec, FocP] in Xhosa

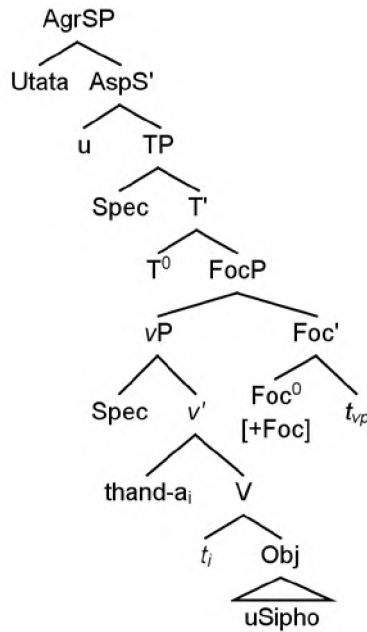


The structure in (36) illustrates that non-focused elements move out of *vP* and the whole *vP* then moves to [Spec, FocP] to satisfy the [+Focus] feature. In this thesis, I assume that non-focused constituents land in the specifier of Adjunct Phrases, which can also be called as Antifocus Phrases according to Zeller's (2008, 2015) terminology.

Now let us look at how focus is realized in the conjoint form first. In the conjoint form, when the object is focused, it remains *in situ*. *vP* moves to [Spec, FocP] to realize focus. This is represented in (37).

- (37) a. U-tata u-thand-a u-Sipho
 aug-1.father sm1-like-fv aug-1.Sipho
 'The father likes SIPHO (not John).'

b. Focus on the object



The derivation of the focus in (37) proceeds as follows:

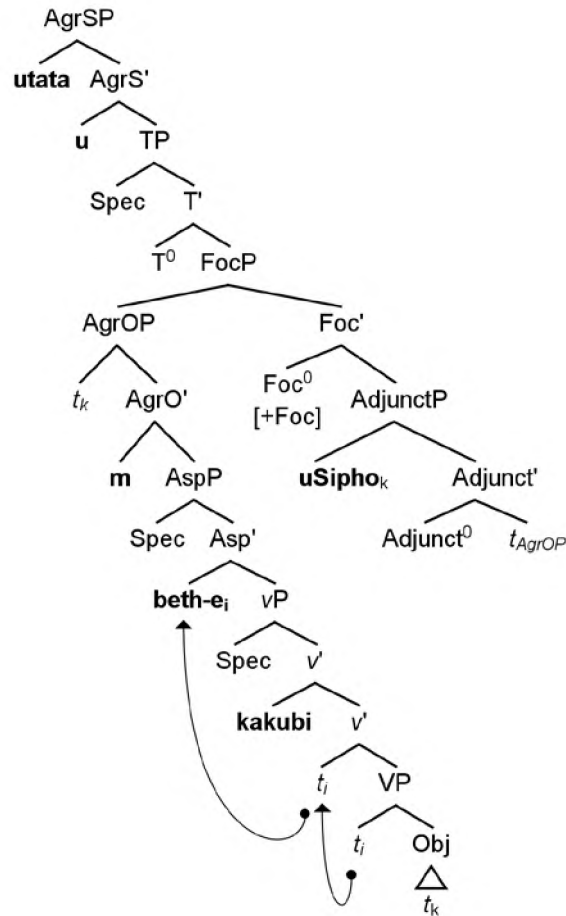
- (i) Merge vP: [_{vP} thanda_i [_{vP} t_i [_{DP} uSipho]]]
- (ii) Merge FocP: [_{FocP} Foc⁰ [_{vP} thanda_i [_{vP} t_i [_{DP} uSipho]]]]
- (iii) Move vP to [Spec, FocP] to satisfy the strong [+Focus] feature

The derivation is licit since no syntactic constraint is violated. The object, which follows the verb immediately, receives a focused reading.

When adjuncts, such as manner adverbials, are focused, the non-focused object moves out of vP and the remnant of vP, including the verb and the focused adjunct, moves to [Spec, FocP], as illustrated in (38).

- (38) a. U-tata u-m-beth-e kakubi u-Sipho
 aug-1.father sm1-om1-beat-prf badly aug-1.Sipho
 ‘The father beat Sipho BADLY’.

b. Focus on the manner adverbial



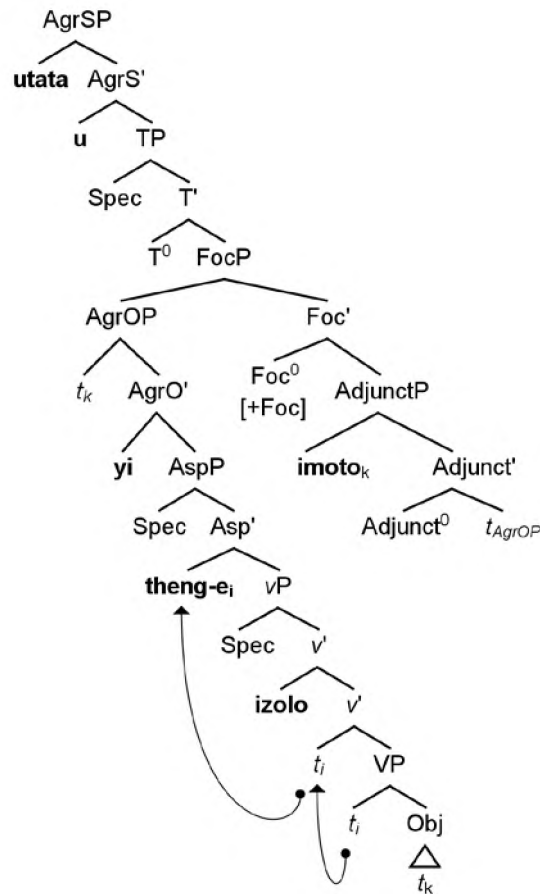
The derivation of the focus in (38) proceeds as below:

- (i) Merge vP: [_{vP} kakubi [_{vP} t_i [_{DP} uSipho]]]
- (ii) Merge AspP: [_{AspP} beth-e_i [_{vP} kakubi [_{t_i} [_{vP} t_i [_{DP} uSipho]]]]]
- (iii) Merge AgrOP: [_{AgrOP} uSipho_k [m [_{AspP} beth-e_i [_{vP} kakubi [_{t_i} [_{vP} t_i [_{DP} t_k]]]]]]]]]
- (iv) Merge FocP: [_{FocP} Foc⁰ [_{AgrOP} uSipho_k [m [_{AspP} beth-e_i [_{vP} kakubi [_{t_i} [_{vP} t_i [_{DP} t_k]]]]]]]]]]]
- (v) Move the object DP to [Spec, AdjunctP]
- (vi) Move AgrOP to [Spec, FocP] to satisfy the strong [+Focus] feature

In this derivation, the manner adverbial occurs in the IAV position and is thus focused. Here it should be pointed out that as I have demonstrated in Section 6.1.5, I argue that AspP, in which the perfect marker *-e* is encoded, and AgrOP occur in the Lexical layer. The vP moves to moves to [Spec, FocP] by pied piping AspP and AgrOP.

In addition, following Cheng & Downing's (2012) analysis on focused adjuncts, I argue that when an adjunct, no matter whether it is a ν P-adverbial, like manner adverbials, or a TP-adverbial, like temporal/locative adverbials, is focused, it is based-generated in the ν P layer. When an adjunct is not focused, it occurs in a ν P-external position. To put it differently, unlike arguments, non-focused adjuncts do not undergo movement out of ν P. This is attributed to the asymmetry between arguments and adjuncts in respect of *trace*, which has been shown in Section 5.5. Moved adjuncts do not leave *trace* in the way that arguments behave and reconstruction of moved adjuncts is not possible. As a result, when temporal/locative adverbials are focused, they are based-generated in the ν P layer. V^0 moves to Asp^0 in the ν P domain and consequently, the focused adjunct appears in the IAV position, as illustrated in (39).

- (39) a. U-tata u-yi-theng-e i-zolo i-moto.
 aug-1.father sm1-om9-buy-prf aug-5.yesterday aug-9.car
 '(My/our) father bought a/the car YESTERDAY.'
 b. Focus on the temporal adverbial

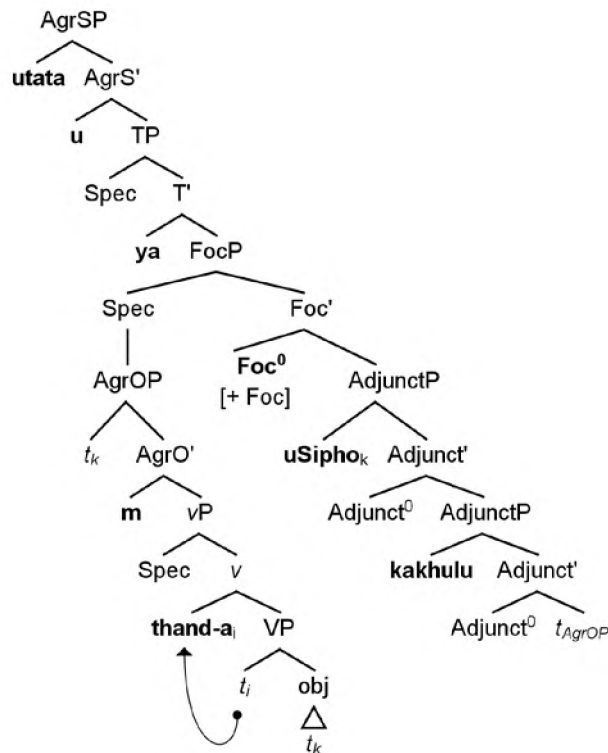


In (39), the temporal adverbial *izolo* occurs in the vP domain owing to focus. The non-focused object is dislocated out of vP via object-marking. Afterwards, the temporal adverbial moves to [Spec, FocP] via vP movement. Consequently, it appears in the IAV position.

In the disjoint form, the verb is focused (Section 7.1.2). In this case, non-focused arguments are moved out of vP via agreement marking and non-focused adjuncts are based-generated in vP-external positions. The remnant of vP (i.e. the verb) moves to [Spec, FocP]. This is schematically represented in (40).

- (40) a. U-tata u-ya-m-thand-a u-Sipho kakhulu.
 aug-1.father sm 1-dis.prs-om 1-like-fv aug-1.Sipho a lot
 ‘(His) father LIKES Sipho a lot.’

b. Focus on the verb



The derivation of the focus in (40) is shown as follows:

- (i) Merge vP: [_{vP} thanda_i [_{vP} t_i [_{DP} uSipho]]]
- (ii) Merge AgrOP: [_{AgrOP} uSipho_k [m [_{vP} thanda_i [_{vP} t_i [_{DP} t_k]]]]]
- (iii) Merge FocP: [_{FocP} Foc⁰ [_{AgrOP} uSipho_k [m [_{vP} thanda_i [_{vP} t_i [_{DP} t_k]]]]]]]
- (iv) Move uSipho_k to [Spec, AdjunctP]
- (v) Move AgrOP to [Spec, FocP] to satisfy the strong [Focus] feature

No syntactic restraint is violated in the process of this derivation and therefore, it is grammatical. The verb is forced to receive the focus as it is the only element left in the ν P.

The above shown how focus is realized in the conjoint form and the disjoint form in Xhosa. An interesting question is why ν P, instead of the focused element itself, moves to [Spec, FocP]. Selkirk (1984) proposes that focus can project. An entire constituent can be interpreted as focused event in the context where only a sub-constituent of it is actually marked for focus (Selkirk 1984 and Van der Wal 2006). Samek-Lodovici (2005, 2006) claims that there is no culminative focus prosody in Chichewa. The culminative stress is shared by the whole phrase. Instead of having a single head at the Intonation Phrase level, each phonological phrase head projects its headedness to the next level to satisfy the constraint: Stress XP_{ALL} (Samek-Lodovici 2005: 737). In the spirit of Selkirk's (1984) Focus Projecting and Semek-Lodovici's (2005, 2006) Stress XP_{ALL}, I argue that focus in Xhosa projects syntactically and it requires the minimal ν P to move to the specifier of FocP. Cross-linguistically, Elordieta (2007) observes that in Basque, the focused word does not necessarily precede the verb immediately, but it must be contained in a syntactic phrase preceding the verb immediately.

There are a number of arguments supporting ν P-to-[Spec, FocP]. First, theoretically, ν P-to-[Spec, FocP] conforms to Kayne's (1994) LCA. The axiom states that (i) no adjunction to XP is allowed; (ii) phrasal movements can target only to a specifier position and head movements only to a head position and (iii) a head can only land to the left of the category being adjoined to, never to its right. The operations in the structure (37-40) obey these corollaries.

Second, unlike van der Wal (2006) and Aboh (2007), both of whom claim that the focused verb undergoes a different operation to the focused arguments and adjuncts, ν P-to-[Spec, FocP] states that focus in the conjoint form and the disjoint form is realized in a unified operation, i.e. non-focused constituents are all dislocated out of ν P and the remnant of ν P moves to [Spec, FocP] to satisfy the [+Focus] feature.

Third, ν P-to-[Spec, FocP] successfully accounts for the relation between focus and the prosodic boundary. As Cheng & Downing (2009, 2012) point out, the focused constituents and the verb must be parsed in one single prosodic phrase, whereas non-focused constituents are parsed separately from the verb. According to Cheng & Downing's (2009, 2012) generalization on the relation between prosodic and syntactic phrases, i.e. there is a one-to-one corresponding relation between the prosodic and syntactic phrase at the right edge, this indicates that the focused constituents and the verb must be encoded in one single syntactic phrase, and

non-focused constituents are encoded in a different syntactic phrase to the verb. The prosodic boundary of the sentences in (37-40) is illustrated in (41-44), respectively.

- (41) a. U-tata u-thand-a u-Si:pho).
 aug-1.father sm1-like-fv aug-1.Sipho
 ‘The father likes SIPHO (not John).’
- b. *U-tata u-tha:nd-a) u-Sipho.
 aug-1.father sm1-like-fv aug-1.Sipho
 Intended: ‘The father likes SIPHO (not John).’
- (42) a. U-tata u-m-beth-e *kaku:bi*) u-Sipho.
 aug-1.father sm1-om1-beat-prf badly aug-1.Sipho
 ‘The father beat Sipho BADLY.’
- b. *U-tata u-m-beth-e *kakubi* u-Si:pho).
 aug-1.father sm1-om1-beat-prf badly aug-1.Sipho
 Intended: ‘The father beat Sipho BADLY.’
- c. *U-tata u-m-be:th-e) *kakubi* u-Sipho.
 aug-1.father sm1-om1-beat-prf badly aug-1.Sipho
 Intended: ‘The father beat Sipho BADLY.’
- (43) a. U-tata u-yi-theng-e *i-zo:lo*) i-moto.
 aug-1.father sm1-om9-buy-prf aug-5.yesterday aug-9.car
 ‘(My/our) father bought a/the car YESTERDAY.’
- b. *U-tata u-yi-theng-e *i-zolo* i-mo:to).
 aug-1.father sm1-om9-buy-prf aug-5.yesterday aug-9.car
 Intended: ‘(My/our) father bought a/the car YESTERDAY.’
- c. *U-tata u-yi-the:ng-e) *i-zolo* i-moto.
 aug-1.father sm1-om9-buy-prf aug-5.yesterday aug-9.car
 Intended: ‘(My/our) father bought a/the car YESTERDAY.’
- (44) a. U-tata u-ya-m-tha:nd-a) *u-Sipho* *kakhulu*.
 aug-1.father sm1-dis.prs-om1-like-fv aug-1.Sipho a lot
 ‘(His) father LIKES Sipho a lot.’
- b. *U-tata u-ya-m-thand-a *u-Si:pho*) *kakhulu*.
 aug-1.father sm1-dis.prs-om1-like-fv aug-1.Sipho a lot
 Intended: ‘(His) father LIKES Sipho a lot.’

- c. *U-tata u-ya-m-thand-a u-Sipho kakhu:lu).
 aug-1.father sm1-dis.prs-om1-like-fv aug-1.Sipho a lot
 Intended: ‘(His) father LIKES Sipho a lot.’

In (41a), the verb and focused object are parsed in one single prosodic phrase as there is no prosodic boundary (i.e. the lengthened penultimate vowel) in-between; the sentence is thus felicitous. In contrast, in (41b), the penultimate vowel of the verb is lengthened, which means that the verb is parsed in a separate prosodic phrase from the object. As a result, the sentence is not felicitous. This shows that the verb must be parsed in the same prosodic phrase as the focused object. Similarly, the sentences in (42-43) indicate that the focused manner and temporal adverbial must be parsed in one single prosodic phrase with the verb, respectively. (44) illustrates that in the disjoint form, the focused verb must be parsed separately from the following constituents prosodically.

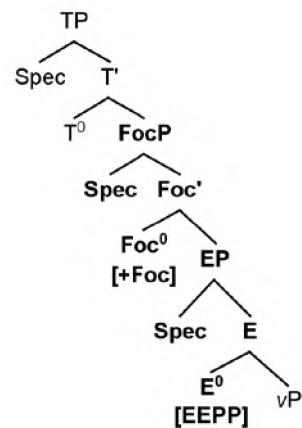
According to the *vP*-to-[Spec, FocP] hypothesis (cf. (35-36)), the focused constituents and the verb move to [Spec, FocP] as a whole. As a result, they must be parsed in one prosodic phrase. Non-focused constituents are dislocated out of *vP* and consequently they are encoded separately from the verb.

Fourth, *vP*-to-[Spec, FocP] reveals the puzzle of the IAV position not being directly related to Case. Not only arguments can occur in the IAV position, adjuncts can also appear in the position. Cheng & Downing (2014) observe that when adverbials co-occur with an intransitive verb, they behave like direct objects. A focused adverbial appears immediately after the verb in the conjoint form and is parsed in the same prosodic phrase as the verb. This is attributed to the fact that non-focused elements move out of *vP*, leaving the focused constituent, whether it is a subject, an object or an adverbial, in the IAV position.

To sum up, this section first examines the focus site in Xhosa. The findings show that the Immediate After Verb position (IAV) is focused in the conjoint form, whereas in the disjoint form the verb is focused. Following Aboh (2007), I propose that there is a FocP in the *vP* periphery in Xhosa. However, my proposal differs from Aboh’s (2007) analysis in assuming that the focused constituent moves to [Spec, FocP] via *vP* movement. More in particular, non-focused constituents move out of *vP* and the remnant of *vP*, containing the focused constituent and the verb, then moves to [Spec, FocP] to satisfy the strong [+Focus] feature on FocP.

The FocP at the *vP* periphery is significant. The Ellipsis EPP Hypothesis states that the EP also occurs at the *vP* periphery. Consequently, the structure of the left periphery of *vP* is illustrated in (45) below.

(45) FocP and EP at the left periphery of *v*P



7.4 Conclusion

This chapter provides the structure of the *v*P left periphery. Through investigating the focus site in Xhosa, I observe that in the conjoint form, the constituents in the IAV position are focused. Moreover, they are parsed into the same prosodic and syntactic phrase as the verb. In the disjoint form the verb is focused and simultaneously, all other *v*P-internal constituents move out of *v*P obligatorily. Following Aboh (2007), I propose that in Xhosa there exists a Focus Phrase at the *v*P left periphery. Focused constituents move to [Spec, FocP] to realize focus via *v*P movement and non-focused constituents must move out of *v*P before *v*P movement. This means that in Xhosa, there is at least a FocP and an EP in the left periphery of *v*P.

FocP plays a crucial role in terms of ellipsis in Xhosa. The focused constituents must move to [Spec, FocP] to realize focus. Consequently, they cannot move to [Spec, EP] for ellipsis. Non-focused constituents are disclosed out of *v*P, which provide a premise for movement to [Spec, EP]. Based on the syntactic structure of FocP and EP, I will demonstrate ellipsis in the *v*P domain in Xhosa is derived within the Ellipsis EPP Hypothesis in Chapter 8.

Chapter 8 Ellipsis EPP Hypothesis and the derivation of ellipsis in Xhosa

8.0 Introduction

The preceding Chapter has demonstrated the structure of the ν P left periphery. In this chapter, I am concerned with the derivations of ellipsis in the ν P domain in Xhosa within under the Ellipsis EPP Hypothesis. For convenience, I repeat this hypothesis in (1).

(1) Ellipsis EPP Hypothesis

- (i) There is an Ellipsis Phrase (EP) at the left periphery of ν P and the EP has an EEPP feature. The EEPP feature renders an XP in the specifier phonetically empty and syntactically frozen.
- (ii) Maximal phrases in the c-command domain of the EP are all potential candidates for satisfying the [EEPP] feature by moving to [Spec, EP]. However, only the phrases that are allowed to move out of ν P can move to [Spec, EP] as EP is located above ν P.
- (iii) The movement to [Spec, EP] is subject to the syntactic and semantic restrictions in structure-building as ellipsis is one operation in the course of structure-building and the derivation will continue after ellipsis takes place.
- (iv) Ellipsis occurs as soon as the [EEPP] feature is satisfied.
- (v) No ellipsis takes place if the EP does not occur structurally.

Keeping this hypothesis in mind, I am going to demonstrate how ellipsis - object-marked DP, NP complement of an object, CP complement and infinitive complement ellipsis - is derived and why ν P is not allowed to be deleted in Xhosa.

This Chapter is organized as follows. In Section 8.1, I present the parallel between ellipsis and movement in Xhosa and show that the elidable constituents must/can move out of ν P at PF. In Section 8.2, based on the EP structure in Xhosa, I provide a fine-grained description on how various constituents, including object-marked DPs, NP complements of objects, CP complements and infinitive complements, are licensed for deletion. In Section 8.3, I discuss the reason why ν P cannot be deleted in Xhosa. In Section 8.4, I demonstrate why manner adverbials are prohibited from being elided. In Section 8.5, a conclusion of the chapter is provided.

8.1 The parallel between ellipsis and movement

Section 4.1 shows that there exists a parallel between the elidable constituents and the constituents that are allowed to move out of ν P in Mandarin. Like in Mandarin, in Xhosa, the constituents that must/can move out of ν P can be deleted, whereas the constituents that must remain inside ν P are not allowed to be deleted. I have already shown the elidable constituents in Xhosa - object-marked DPs, NP complements of objects, CP complements and infinitive complements - in Section 6.2. In what follows, I will demonstrate the parallel between the ellipsis and the movement of these constituents in Xhosa.

8.1.1 Elidable constituents and movement out of ν P

Section 6.1.2 has provided a clear demonstration of the dislocation of object-marked DPs in Xhosa. With object marking, an object must undergo movement out of ν P, which has been illustrated in the example (19) in Chapter 6. The parallel between the ellipsis and movement of an object-marked DP is illustrated in (2) and (3). In comparison, without object marking, the object is not allowed to be deleted or to be fronted for topicalization, as shown in (4).

- (2) a. U-John u-fund-a i-si-Xhosa,
 aug-1.John sm1-study-fv aug-7-Xhosa,
 na-ye u-Mary u-ya-si-fund-a [DP ~~i-si-Xhosa~~].
 and-1 aug-1.Mary sm1-prs.dis-om7-study-fv aug-7-Xhosa
 ‘John studies Xhosa and Mary does too.’
- b. [DP *I-si-Xhosa*]_i, u-Mary u-ya-si-fund-a *t_i*.
 aug-7-Xhosa aug-1.Mary sm1-prs.dis-om7-study-fv
 ‘Xhosa, Mary studies.’ (Disjoint form)
- (3) a. U-John u-theth-a i-si-Xhosa kakuhle,
 aug-1.John sm1-speak-fv aug-7-Xhosa well
 na-ye u-Mary u-si-theth-a kakuhle [DP ~~i-si-Xhosa~~].
 and-1 aug-1.Mary sm1-om7-speak-fv well aug-7-Xhosa
 ‘John speaks Xhosa well and Mary does too.’
- b. [DP *I-si-Xhosa*]_i, u-Mary u-si-theth-a kakuhle *t_i*.
 aug-7-Xhosa aug-1.Mary sm1-om7-speak-fv well
 ‘Xhosa, Mary speaks well.’ (Conjoint form)

- (4) a. *U-John u-fund-a i-si-Xhosa,
 aug-1.John sm1-study-fv aug-7-Xhosa,
 na-ye u-Mary u-fund-a [~~i-si-Xhosa~~].
 and-1 aug-1.Mary sm1-study-fv aug-7-Xhosa
 Intended: ‘John studies Xhosa and Mary does too.’
- b. *_{[DP *I-si-Xhosa*]_i}, u-Mary u-fund-a *t_i*.
 aug-7-Xhosa aug-1.Mary sm1-study-fv
 Intended: ‘Xhosa, Mary studies.’

Note that the sentences in (2) are in the disjoint form and the object marker is prefixed to the verb. In this case, the object DP can be deleted (2a) and be fronted to the sentence-initial position as well (2b). Although the sentences in (3) are in the conjoint form, the marker object is prefixed to the verb. In such sentences, the object can also be deleted (3a) or move to the sentence-initial position (3b). This indicates that an object can be deleted or be fronted to the sentence-initial position as long as its object marker is prefixed to the verb. In contrast, the sentences in (4) illustrate that when no object marking occurs, it is ungrammatical to delete the object (4a) or to move the object to the sentence-initial position (4b).

NPs inside the object, no matter whether the object is object-marked or not, can be deleted (Section 6.2.2). Correspondingly, NPs of this sort can undergo a long-distance movement, stranding their attributive. For instance, they can be fronted to the sentence-initial position for topicalization, as illustrated in (5-6).

- (5) a. U-John u-nxib-e i-dyasi e-bomvu,
 aug-1.John sm1-wear-prf aug-9.coat rel.9-red
 na-ye u-Mary u-nxib-e [~~i-dyasi~~] e-bomvu.
 and-1 aug-1.Mary sm1-wear-prf aug-9.coat rel.9-red
 ‘John is wearing a red coat and Mary is wearing a red one.’
- b. [_{I-dyasi}]_i u-Mary u-nxib-e *t_i* e-bomvu.
 aug-9.coat aug-1.Mary sm1-wear-prf rel.9-red
 ‘Coat, Mary is wearing a red one.’
- (6) a. U-John u-nxib-e i-dyasi e-bomvu,
 aug-1.John sm1-wear-prf aug-9.coat rel.9-red
 na-ye u-Mary u-*yi*-nxib-ile [~~i-dyasi~~] e-bomvu.
 and-1 aug-1.Mary sm1-om9-wear-dis.prf aug-9.coat rel.9-red
 ‘John is wearing a red coat and Mary is also wearing a red one.’

- b. [~~I-dyasi~~]_i u-Mary u-yi-nxib-ile *t_i* e-bomvu.
 aug-9.coat aug-1.Mary sm1-om9-wear-dis.prf rel.9-red
 ‘Coat, Mary is wearing a red one.’

Note that in (5) no object marking occurs and in (6) the object marker is prefixed to the verb. In both sentences, the NP complement of the object is allowed to be deleted (5a & 6a) and to be fronted to the sentence-initial position for topicalization (5b & 6b).

When a CP serves as the complement of a verb, it can be deleted (Section 6.2.3). A CP complement can also move to the sentence-initial position for topicalization. However, the clause must be in the disjoint form. It would be ungrammatical if the target clause is in the conjoint form. The contrast is illustrated in (7) and (8).

- (7) a. Ndi-bon-e ukuba u-John u-ncamis-e u-Mary,
 1sg-see-prf comp aug-1.John sm1-kiss-prf aug-1.Mary
 na-ye u-Sipho u-bon-ile [~~CP ukuba u-John u-ncamis-e u-Mary~~].
 and-1 aug-1.Sipho sm1-see-dis.prf comp aug-1.John sm1-kiss-prf aug-1.Mary
 ‘I saw that John kissed Mary and Sipho also did/saw (it).’

- b. [_{CP} U-John u-ncamis-e u-Mary]_i, u-Sipho u-bon-ile *t_i*.
 aug-1.John sm1-kiss-prf aug-1.Mary aug-1.Sipho sm1-see-dis.prf
 ‘John kissed Mary, Sipho saw.’

- (8) a. *Ndi-bon-e ukuba u-John u-ncamis-e u-Mary,
 1sg-see-prf comp aug-1.John sm1-kiss-prf aug-1.Mary
 na-ye u-Sipho u-bon-e [~~CP ukuba u-John u-ncamis-e u-Mary~~].
 and-1 aug-1.Sipho sm1-see-prf comp aug-1.John sm1-kiss-prf aug-1.Mary
 Intended: ‘I saw that John kissed Mary and Sipho also did/saw (it).’

- b. * [_{CP} U-John u-ncamis-e u-Mary]_i, u-Sipho u-bon-e *t_i*.
 aug-1.John sm1-kiss-prf aug-1.Mary aug-1.Sipho sm1-see-prf
 Intended: ‘John kissed Mary, Sipho saw.’

In (7a) the target clause is in the disjoint form and the CP complement is thus deleted. In contrast, the sentence in (8a) is ungrammatical in that the complement is deleted, but the target clause is in the conjoint form. (7b) shows that the CP complement can move to the sentence-initial position when the main clause is in the disjoint form, however, it is ungrammatical to move the CP complement when the main clause is

in the conjoint form (8b). Here, it shows that a CP complement can be deleted only when it is allowed to move out of vP.

Like CP complements, an infinitive complement can also be deleted when the target is in the disjoint form. In this case, the infinitive complement can be fronted to the sentence-initial position for topicalization. Consider the following examples.

- (9) a. U-Mary u-zam-a uku-theth-a i-si-Xhosa,
 aug-1.Mary sml-try-fv inf-speak-fv aug-7-Xhosa
 na-m ndi-ya-zam-a [_{INF} ~~uku-theth-a i-si-Xhosa~~].
 and-1sg 1sg-dis.prs-try-fv inf-speak-fv aug-7-Xhosa
 ‘Mary is trying to speak Xhosa and I am trying to, too.’
- b. [_{INF} Uku-theth-a i-si-Xhosa]_i, ndi-ya-zam-a *t_i*.
 inf-speak-fv aug-7-Xhosa 1sg-dis.prs-try-fv
 ‘Speak Xhosa, I am trying to.’
- (10) a. *U-Mary u-zam-a uku-theth-a i-si-Xhosa,
 aug-1.Mary sml-try-fv inf-speak-fv aug-7-Xhosa
 na-m ndi-zam-a [~~uku-theth-a i-si-Xhosa~~].
 and-1sg 1sg-try-fv inf-speak-fv aug-7-Xhosa
 Intended: ‘Mary is trying to speak Xhosa and I am trying to, too.’
- b. * [_{INF} Uku-theth-a i-si-Xhosa]_i, ndi-zam-a *t_i*.
 inf-speak-fv aug-7-Xhosa 1sg-try-fv
 Intended: ‘Speak Xhosa, I am trying to.’

In (9a), the target clause is in the disjoint form and the infinitive complement can thus be elided. (9b) shows that in this disjoint form the infinitive complement is allowed to move to the sentence-initial position. The ungrammaticality of the sentences in (10) shows that the infinitive complement cannot be deleted or move out of vP in the conjoint form.

The above shows that object-marked DPs, regardless of whether the clause is in the conjoint form or in the disjoint form, is allowed to be deleted. At the same time, they can move out of vP. The NP complement of an object, no matter whether the object is object-marked, can be deleted and it can move out of the vP domain as well. CP complements and infinitive complements is allowed to be deleted when the target clause is in the disjoint form, and they can move to the sentence-initial position for topicalization. In comparison,

when the target clause is in the conjoint form, these constituents are not allowed to be deleted or to move out of *vP*. This shows that the disjoint form and the conjoint form play an important role in respect of movement and ellipsis in the *vP* domain in Xhosa. Therefore, in the next section, I am going to discuss the dislocation of *vP*-internal constituents in the disjoint form.

8.1.2 Dislocation in the disjoint form

In many Bantu languages, it has been observed that apart from the verb, all *vP*-internal constituents such as the object must be dislocated out of *vP* in the disjoint form (see Bresnan & Mchombo 1987 for Chichewa; Kosch 1988 for Northern Sotho; Creissels 1996 for Tswana; Baker 2003 for Kinande; van der Wal 2006 for Makhuwa and Van der Spuy 1993, Cheng & Downing 2009, Adams 2010, Zeller 2012b, 2014, 2015 for Zulu). Taking Zulu as an example, Cheng & Downing (2009) have shown that in the disjoint form, the element that follows the verb is parsed into a separate prosodic phrase from the verb. Based on the relation between the prosodic and syntactic boundary, they conclude that the element after the verb is dislocated out of *vP*. The dislocation of *vP*-internal constituents is significant in that the Ellipsis EPP Hypothesis requires that a constituent must move to [Spec, EP], which is above *vP*. I have already shown in Chapter 5 that one of the licensing conditions for ellipsis in the *vP* domain in Mandarin is that an elliptical constituent must be able to move out of *vP*. Therefore, in what follows, I am going to briefly discuss the dislocation of *vP*-internal constituents in the disjoint form in Xhosa.

I have presented a set of arguments in Section 6.1.2 showing that in the disjoint form, the object moves out of *vP* compulsorily by object-marking. For convenience, I repeat the example (23) in Section 6.1.2 below.

- (11) a. U-Sipho u-ya-si-the: th-a) i-si-Xho:sa).
 aug-1.Sipho sm1-dis.prs-om7-speak-fv aug-7-Xhosa
 ‘Sipho speaks isiXhosa.’
- b. *U-Sipho u-ya-si-theth-a i-si-Xho:sa).
 aug-1.Sipho sm1-dis.prs-om7-speak-fv aug-7-Xhosa

Note that both sentences in (11) are in the disjoint form. Consequently, the object-marked DP *isiXhosa* must be encoded in a different prosodic phrase from the verbal complex, which is marked by the lengthened penultimate vowel of the verbal complex (11a). It is ungrammatical if they are parsed in one single prosodic phrase (11b). According to Cheng & Downing’s (2009) generalization on the relation between the prosodic and the syntactic boundary, which postulates that there is one-to-one corresponding relation between a

prosodic phrase and a syntactic phrase on the right edge, this indicates that the object-marked DP belongs to a different syntactic phrase to the verb.

Like object-marked DPs, other *vP*-internal constituents, including manner adverbials, CP and infinitive complements are parsed into a separate prosodic phrase from the verb as well. This suggests that these constituents are encoded into a different syntactic phrase from the verb. Consider the examples below.

- (12) a. U-Sipho u-theth-*e* kakhu:le). (Conjoint form)
 aug-1.Sipho sm1-speak-prf well
 ‘Sipho spoke well.’
 b. *U-Sipho u-the:th-*e*) kakhu:le).
 aug-1.Sipho sm1-speak-prf well
- (13) a. U-Sipho u-theth-*i:le*) kakhu:le). (Disjoint form)
 aug-1.Sipho sm1-speak-dis.prf well
 ‘Sipho spoke well.’
 b. *U-Sipho u-theth-*ile*) kakhu:le).
 aug-1.Sipho sm1-speak-dis.prf well
- (14) a. U-Sipho u-bon-*e* ukuba u-John u-ncamis-e u-Ma:ry). (Conjoint form)
 aug-1.Sipho sm1-see-prf comp aug-1.John sm1-kiss-prf aug-1.Mary
 ‘Sipho saw that John kissed Mary.’
 b. *U-Sipho u-bo:n-*e*) ukuba u-John u-ncamis-e u-Ma:ry).
 aug-1.Sipho sm1-see-prf comp aug-1.John sm1-kiss-prf aug-1.Mary
- (15) a. U-Sipho u-bon-*i:le*) ukuba u-John u-ncamis-e u-Ma:ry). (Disjoint form)
 aug-1.Sipho sm1-see-dis.prf comp aug-1.John sm1-kiss-prf aug-1.Mary
 ‘Sipho saw that John kissed Mary.’
 b. *U-Sipho u-bon-*ile*) ukuba u-John u-ncamis-e u-Ma:ry).
 aug-1.Sipho sm1-see-dis.prf comp aug-1.John sm1-kiss-prf aug-1.Mary
- (16) a. Ndi-zam-a uku-theth-a i-si-Xho:sa). (Conjoint form)
 1sg-try-fv inf-speak-fv aug-7-Xhosa
 ‘I am trying to speak Xhosa.’
 b. *Ndi-za:m-a) uku-theth-a i-si-Xho:sa).
 1sg-try-fv inf-speak-fv aug-7-Xhosa

- (17) a. Ndi-ya-za: *m-a* uku-theth-a i-si-Xho:sa). (Disjoint form)
 1sg-dis.prs-try-fv inf-speak-fv aug-7-Xhosa
 ‘I am trying to speak Xhosa.’
- b. *Ndi-ya-zam-a uku-theth-a i-si-Xho:sa).
 1sg-dis.prs-try-fv inf-speak-fv aug-7-Xhosa

The sentences in (12) show that in the conjoint form, the manner adverbial *kakuhle* ‘well’ must be parsed into one single prosodic phrase (12a). It is not grammatical when they are encoded in different prosodic phrases (12b). By contrast, the sentences in (13) show that in the disjoint form, the manner adverbial must be parsed in a separate prosodic phrase from the verb (13a). In (13b), the penultimate vowel is not lengthened and no prosodic boundary occurs between the verb and the manner adverbial. Consequently, the sentence is not grammatical. Likewise, (14-17) illustrate that while the CP and infinitive complement are encoded in the same prosodic phrase as the verb in the conjoint form, in the disjoint form, they must be parsed separately. Following Cheng & Downing’s (2009) generalization, this suggests that in the conjoint form, the manner adverbial, CP and infinitive complement are encoded in the same syntactic phrase as the verb and in the disjoint form, they belong to different syntactic phrases.

As I have already presented in Section 5.5, there exists an asymmetry between arguments/complements and adjuncts in terms of reconstruction. While an argument/complement leaves *trace* and it can be reconstructed when it is deleted, an adjunct does not leave such *trace* and it cannot be reconstructed if it is deleted (Cinque 1982, Koster 1982, Hornstein 1984, Barss 1986, 1988 and Culicover 1997). On account of this asymmetry, I argue that in the disjoint form, like object-marked DPs, CP and infinitive complements are dislocated out of *vP*, whereas adjuncts such as manner adverbials are based-generated in a position out of *vP* and they do not undergo movement³⁴.

To summarise, this section shows that like Mandarin, there exists a parallel between ellipsis and movement of *vP*-internal constituents. The constituents that can be deleted in Xhosa can/must move out of *vP*. The parallel is illustrated in (18).

³⁴ Similarly, in Mandarin, manner adverbials may be generated in the sentence-initial position (See Footnote 23).

(18) The parallel between ellipsis and movement in Xhosa

		Object- marked DP	Object without object marking	CP complement	Infinitive complement
Conjoint form	Ellipsis	√	×	×	×
	Move	√	×	×	×
Disjoint form	Ellipsis	√	N/A	√	√
	Move	√	N/A	√	√

The table in (18) shows that the constituents that can be deleted are neatly parallel to the ones that can/must move out of ν P. This is significant in that the Ellipsis EPP Hypothesis requires that an XP can be deleted only when it moves to [Spec, EP], which is located in a ν P-external position.

8.2 Derivation of ellipsis in the ν P domain in Xhosa

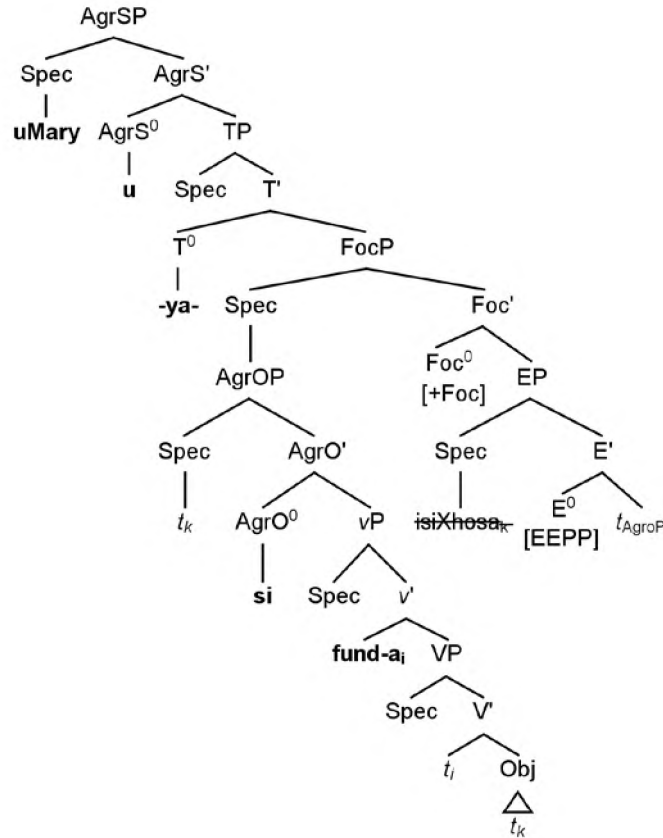
Based on the Ellipsis EPP Hypothesis (cf. (1)) and the syntactic structure of the EP in Xhosa (cf. Chapter 7 (45)), in this section, I demonstrate how NP ellipsis, DP ellipsis, CP-complement ellipsis and infinitive-complement ellipsis are derived in Xhosa.

8.2.1 Derivation of object-marked DP ellipsis

The Ellipsis EPP Hypothesis (cf. (1)) states that object DPs are potential candidates for satisfying the EEPF feature as they are maximal phrases in the c-command domain of EP. However, as I have been demonstrated in Section 6.1.2 and Section 8.1, while object-marked DPs move out of ν P obligatorily, non-object-marked DPs must remain in ν P. Consequently, object-marked DPs are allowed to move to [Spec, EP], whereas non-object-marked DPs may not undergo movement to [Spec, EP]. An object-marked DP will be deleted as soon as the EEPF feature is satisfied. Afterwards, the process of structure-building goes on. The EP merges with FocP and the strong [+Focus] feature on FocP drives the remnant of ν P moves to [Spec, FocP]. The derivation is schematically represented in (19).

- (19) a. U-John u-fund-a i-si-Xhosa,
 aug-1.John sml-study-fv aug-7-Xhosa,
 na-ye u-Mary u-ya-si-fund-a [i-si-Xhosa].
 and-1 aug-1.Mary sml-dis.prs-om7-study-fv aug-7-Xhosa
 ‘John studies Xhosa and Mary does too.

b. Object-marked DP ellipsis



The operations of the object-marked DP ellipsis in (19) are shown as follows:

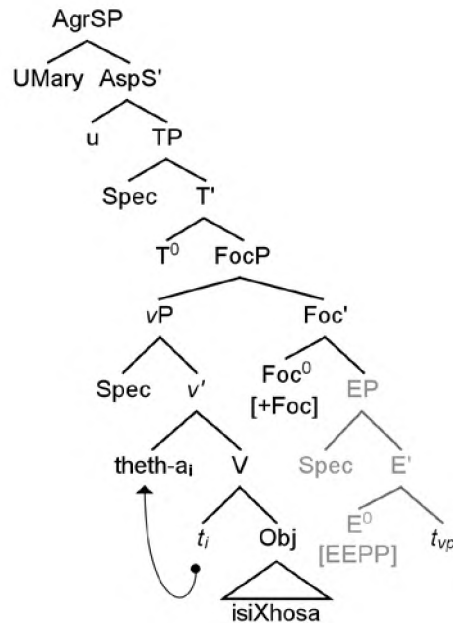
- (i) Merge vP: [_{vP} fund_{ai} [_{vP} t_i [_{DP} isiXhosa_k]]]
- (ii) Merge AgrOP: [_{AgrOP} isiXhosa_k [_{si} [_{vP} fund_{ai} [_{vP} t_i [_{DP} t_k]]]]]
- (iii) Merge EP: [_{EP} E⁰ [_{AgrOP} isiXhosa_k [_{si} [_{vP} fund_{ai} [_{vP} t_i [_{DP} t_k]]]]]]]
- (iv) Move the object-marked DP to [Spec, EP]
- (v) Delete the object-marked DP
- (vi) Merge FocP: [_{FocP} Foc⁰ [_{EP} E⁰ [_{AgrOP} isiXhosa_k [_{si} [_{vP} fund_{ai} [_{vP} t_i [_{DP} t_k]]]]]]]]]
- (vii) Move AgrOP to [Spec, FocP]
- (viii) Merge TP and AgrSP

In (19a), the object marker occurs in the target clause and the object DP is thus dislocated out of vP obligatorily. The structure in (19b) illustrates that instead of moving to the specifier of Adjunct Phrases (cf. Chapter 7 (37 & 39)), the dislocated object DP moves to [Spec, EP]. It is deleted as soon as the EEPP feature is satisfied. The target clause is in the disjoint form and the verb is thus focused. The remnant of vP

moves to [Spec, FocP] to realize focus. In this derivation, no syntactic or semantic requirement is violated and the derivation is grammatical.

Although an object DP is a potential candidate for satisfying the EEPP feature even when it is not object-marked, the object must remain *in situ* and may not move out of *vP*. Consequently, it is not allowed to undergo movement to [Spec, EP]. Furthermore, in this case, the object appears in the IAV position and it is focused, which has been demonstrated in Section 7.3. The [+Focus] feature does not comply with the semantic content of the EEPP feature which must be e-GIVEN (i.e. not focused), so it does not match the EEPP feature. Instead, it moves to [Spec, FocP] via *vP* movement to realize focus. This is schematically represented in (20).

- (20) a. *U-John u-theth-a i-si-Xhosa, na-ye u-Mary u-theth-a [~~i-si-Xhosa~~].
 aug-1.John sm1-speak-fv aug-7-Xhosa and-1 aug-1.Mary sm1-speak-fv aug-7-Xhosa
 Intended: ‘John speaks Xhosa and Mary does too.’
 b. The unavailability of non-object-marked DP ellipsis



In (20a), the object appears in the IAV position and the sentence is ungrammatical when the object is deleted. The structure in (20b) shows that the object moves to [Spec, FocP] via *vP* movement, which is driven by the strong [+Focus] feature and it may not move to [Spec, EP] for ellipsis. In this case, according to the Ellipsis EPP Hypothesis (cf. (1vi)), the EP does not occur structurally.

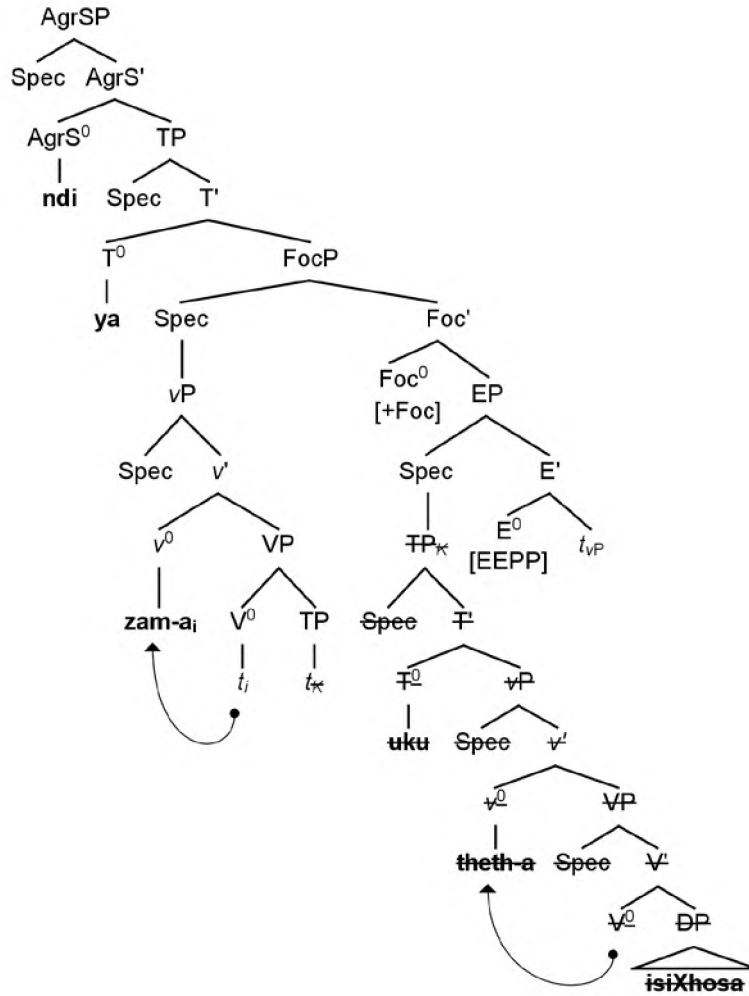
8.2.2 Derivation of CP-complement ellipsis

As I have already shown, when a CP serves as a complement of the verb in the disjoint form, it is licensed to be deleted (cf. (7a)). For convenience, I repeat (7a) in (21) below.

- (21) Ndi-bon-e *ukuba u-John u-ncamis-e u-Mary*,
1sg-see-prf comp aug-1.John sm1-kiss-prf aug-1.Mary
na-ye u-Sipho u-bon-ile [_{CP} ~~ukuba u-John u-ncamis-e u-Mary~~].
and-1 aug-1.Sipho sm1-see-dis.prf comp aug-1.John sm1-kiss-prf aug-1.Mary
'I saw that John kissed Mary and Sipho also did/saw (it).'

In (21), the CP complement is a maximal phrase in the c-command domain of EP. Therefore, it is a potential candidate for satisfying the EEPP feature. Moreover, the target clause is in the disjoint form; hence, while the verb is focused, the CP complement is non-focused (Section 7.3). The CP complement must move out of vP before the vP moves to [Spec, FocP] to realize the focus on the verb. As a result, the CP complement is allowed to move to [Spec, EP] to satisfy the EEPP feature. The CP complement moves to [Spec, EP] and is deleted when the EEPP feature is satisfied. Afterwards, the remnant of vP (i.e. the verb), moves to [Spec, FocP] to satisfy the strong [+Focus] feature. This is illustrated in (22).

b. Infinitive-complement ellipsis



The derivation of the infinitive complement ellipsis in (23b) proceeds as follows:

- (i) Merge the infinitive: $[_{INF} \text{uku} [_{VP} \text{theth-a} [_{VP} t [_{DP} \text{isiXhosa}]]]]]$
- (ii) Merge vP: $[_{VP} \text{zam-a}_i [_{VP} t_i [_{INF} \text{uku} [_{VP} \text{theth-a} [_{VP} t [_{DP} \text{isiXhosa}]]]]]]]$
- (iii) Merge EP: $[_{EP} E^0 [_{VP} \text{zam-a}_i [_{VP} t_i [_{INF} \text{uku} [_{VP} \text{theth-a} [_{VP} t [_{DP} \text{isiXhosa}]]]]]]]]]$
- (iv) Move the infinitive complement to [Spec, EP]
- (v) Delete the infinitive complement
- (vi) Merge FocP: $[_{FocP} \text{Foc}^0 [_{EP} E^0 [_{VP} \text{zam-a}_i [_{VP} t_i [_{TP} \text{uku} [_{VP} \text{theth-a} [_{VP} t [_{DP} \text{isiXhosa}]]]]]]]]]]]$
- (vii) Move vP to [Spec, FocP]
- (viii) Merge TP and AgrSP

In (23a), the target clause is in the disjoint form; hence, the infinitive complement moves out of vP compulsorily. As a result, the syntactic and semantic requirements of movement to [Spec, EP] are met and

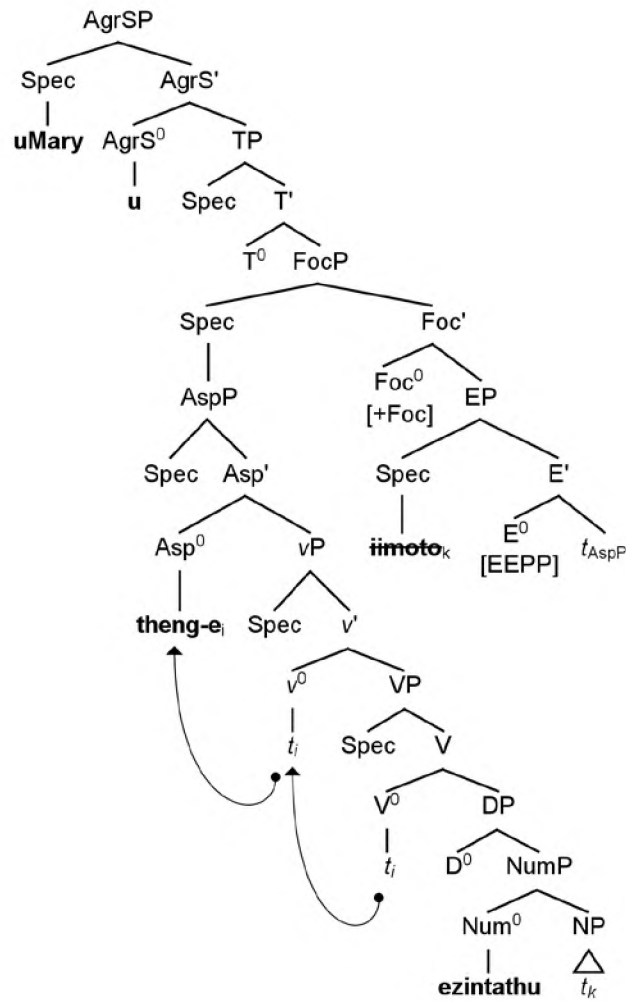
derivation is thus grammatical. However, when the infinitive complement is in the conjoint, it is focused and must remain in the IAV position. Consequently, it may not move to [Spec, EP] to satisfy the EEPP feature and it is thus prohibited from deletion.

8.2.4 Derivation of NP ellipsis

In Xhosa, NPs in the object, no matter whether the object is object-marked or not, can be deleted (Section 6.2.2). The NP is a potential candidate for satisfying the EEPP feature in that it is a maximal phrase in the c-command domain of EP on one hand; on the other hand, it is allowed to move out of vP (Section 8.1.1). As a result, within the Ellipsis EPP Hypothesis, it is licensed for ellipsis, as illustrated in (24).

- (24) a. U-John u-theng-e ii-moto ezi-ntathu,
 aug-1.John sm1-buy-prf aug-10.car adj.10-three
 na-ye u-Mary u-theng-e [~~ii-moto~~] ezi-ntathu.
 and-1 aug-1.Mary sm1-buy-prf aug-10.car adj.10-three
 ‘John has bought three cars and Mary has also bought three.’

b. NP ellipsis



The derivation of the NP ellipsis in (24) is shown as follows:

- (i) Merge DP: [_{D⁰} [_{Num⁰} ezintathu [_{NP} iimoto_k]]]³⁵
- (ii) Merge vP: [_{vP} theng-a_i [_{vP} t_i [_{DP} D⁰ [_{Num⁰} ezintathu [_{NP} iimoto_k]]]]]
- (ii) Merge AspP: [_{AspP} theng-e_i [_{vP} t_i [_{vP} t_i [_{DP} D⁰ [_{Num⁰} ezintathu [_{NP} iimoto_k]]]]]]]
- (iii) Merge EP: [_{EP} E⁰ [_{AspP} theng-e_i [_{vP} t_i [_{vP} t_i [_{DP} [D⁰ [_{Num⁰} ezintathu [_{NP} iimoto_k]]]]]]]]]
- (iv) Move the NP complement to [Spec, EP]
- (v) Delete the NP complement
- (vi) Merge FocP: [_{FocP} Foc⁰ [_{EP} E⁰ [_{AspP} theng-e_i [_{vP} t_i [_{vP} t_i [_{DP} [D⁰ [_{Num⁰} ezintathu [_{NP} iimoto_k]]]]]]]]]]]
- (vii) Move AspP to [Spec, FocP]
- (viii) Merge TP and AgrSP

³⁵ In Xhosa, as shown in the antecedent clause in (24a), the NP-complement precedes the numeral phrase, i.e. *iimoto ezintathu* ‘cars-three’. This suggests that the NP complement undergoes movement to D⁰. Here I leave this issue open for further research.

In (24), although the entire object DP is focused in the target clause as the clause is in the conjoint form, the NP complement is allowed to move out of ν P and the movement to [Spec, EP] is thus grammatical. After the NP is deleted, the process of the structure-building goes on and the ν P moves to [Spec, FocP] to realize focus. The derivation completes until all the functional projections are merged.

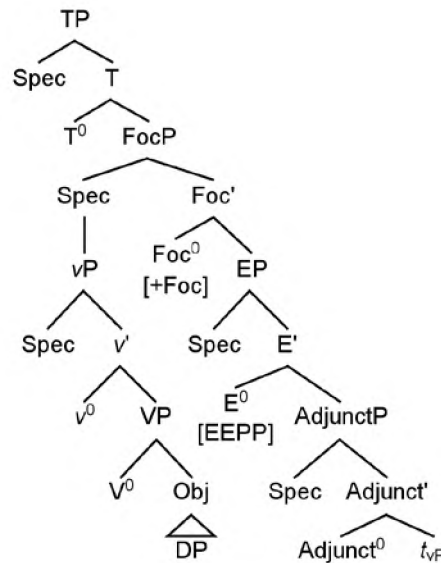
Like Mandarin, in Xhosa, DPs containing a missing NP do not only appear in the object position, but can also appear in the subject position. In this case, NP ellipsis cannot be derived from the movement to the specifier of the EP at the ν P left periphery. This further confirms the prediction made based on Mandarin data (see Section 5.2.2) that there is an EP which projects on top of some projection in the nominal domain and NP moves to [Spec, EP] for ellipsis, however NP ellipsis can be postponed until the predicate/verbal domain.

To sum up, this section shows that the Ellipsis EPP Hypothesis yields the ellipsis of object-marked DPs, CP complements, infinitive complements and NPs in the object. At the same time, it also successfully precludes the ungrammatical derivations of ellipsis.

8.3 The impossibility of ν P ellipsis in Xhosa

The Ellipsis EPP Hypothesis states that all maximal phrases in the c-command domain of EP are potential candidates for satisfying the [EEPP] feature on the EP. This suggests that ν P is a candidate for moving to [Spec, EP]. However, as I have already shown in Section 7.3, Xhosa is a syntax-dominant language. The ν P must move to [Spec, FocP] to satisfy the strong [+Focus] feature when FocP appears structurally (cf. Chapter 7 (37)). In the conjoint form, non-focused constituents are dislocated out of ν P and the focused constituent moves to [Spec, FocP] via ν P movement to realize focus. In the disjoint form, all ν P-internal constituents are dislocated out of ν P, and the remnant of ν P (i.e. the verb) moves to [Spec, FocP] to realize the focus falling on the verb. As a result, ν P may not move to [Spec, EP] for ellipsis either in the conjoint form or in the disjoint form. This is schematically represented in (25).

(25) The escape of ν P ellipsis



The structure in (25) illustrates that the ν P moves to [Spec, FocP], driven by the strong [+Focus] feature; hence, it is not possible to move to [Spec, EP] to match the EEPP feature. This accounts for the reason why the ν P cannot be deleted when the FocP occurs in the structure. The interesting question arises immediately: why is ν P ellipsis precluded when FocP does not occur in the structure? If there is no FocP, ν P will not move to [Spec, FocP]. We would expect that the ν P should be able to move to [Spec, EP] and then be deleted. On the contrary, ν P is not allowed to be deleted in the neutral context, i.e. FocP does not appear in the structure. This is attributed to the Focus condition on ellipsis (Rooth 1985, 1996, Schwarzschild 1999 and Merchant 2001). As it has been presented in the literature review Chapter 2 (Section 2.2.2.3), Merchant's (2001) Focus condition on ellipsis requires that a constituent α can be deleted only if α is e-GIVEN. An expression β is e-GIVEN iff β and its antecedent are identical after replacing Focus-marked parts with modulo \exists -type shifting. To be concrete, this claims that the elided part is not focus-marked, whereas the part that remains overt receives a focus interpretation, as illustrated in (26-27).

(26) Abby called Chuck an idiot after BEN_F did.

Abby ate a sandwich after BEN_F did.

Abby left the party because BEN_F did.

(Merchant 2001: Chapter 1 (45))

(27) I know she called some politician an idiot, but I don't know $WHICH_F$.

(Merchant 2001: Chapter 1 (59))

In (26) and (27), the elided constituents do not contain any Focus-marked element on one hand; on the other hand, the subject in the second conjunct of (26) and the *wh*-phrase *which* extracted from the ellipsis site in (27) are focused.

In Xhosa, as I have already shown in the preceding section (Section 8.3), the elided constituents - including object-marked DPs, CP complements, infinitive complements and NP complements of objects - are not Focus-marked. More precisely, they are allowed to be deleted only if they must/can undergo movement out of *vP* before *vP*-to-[Spec, FocP]. This suggests that EP co-occurs with FocP. EP will not appear if there is no FocP in the structure. However, EP does not necessarily occur even if FocP appears structurally. If EP does not appear in the structure, no ellipsis will take place. Non-focused constituents will be dislocated to the specifier of Adjunct Phrases (cf. Chapter 7 (37)). Therefore, when FocP occurs, *vP* moves to [Spec, FocP] to realize focus and it consequently escapes ellipsis as illustrated in (25). When no FocP appears, EP does not occur in the structure either and consequently no ellipsis takes place.

It should be pointed out that like Xhosa, in Mandarin, the elided constituents must not be focused, whereas the remnant of the target clause, at least part of it, receives a focused reading (cf. (28)).

(28) John xihuan Mary, SIPHO ye xihuan [~~Mary~~].

John like Mary Siphho also like Mary

‘John likes Mary and SIPHO does too.’

In (28), the focus falls on the subject of the target clause. However, in Mandarin, the focused constituent does not undergo syntactic movement to realize focus. Mandarin is a prosody-dominant language, in which focus does not drive syntactic movement, but it is realized by prosodic stress.

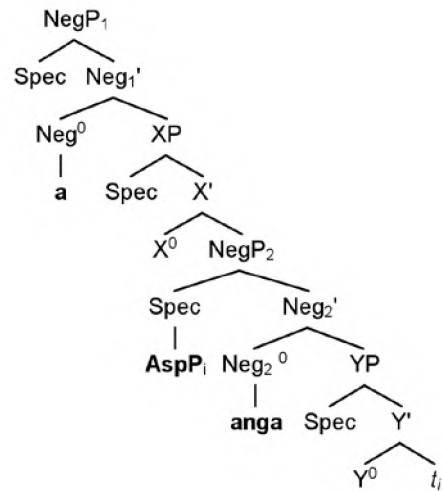
In addition, it is interesting to note that in Xhosa, after *vP*-to-[Spec, FocP], *vP* may continue to move to a higher position owing to some inflectional features. For instance, in Xhosa, negative marking is encoded at both the left and the right of the verb, as illustrated in (29). Based on the distribution of the negative affixes, one possible derivation is represented in (30).

(29) *A-ndi-theng-anga* sonka.

neg-1sg-buy-prf.neg 7.bread

‘I did not buy bread.’

(30) $\nu P/AspP$ -to-[Spec, NegP]



The structure in (30) shows that $AspP/\nu P$ moves to [Spec, $NegP_2$] and consequently, the negative marker – *anga* is suffixed to the verb, whereas the negative marker *a-* is prefixed to the verb. If this analysis is correct, it suggests that even if there is no $FocP$ structurally, the νP in Xhosa still moves to a higher position, which is driven by some inflectional feature on the $NegP_2$. I leave this assumption open for the future research as it is beyond the scope of this study.

This section demonstrates that in Xhosa, the νP moves to [Spec, $FocP$] to realize focus and it thus cannot be deleted. In this sense, it is different from Mandarin. In Mandarin, there is no $FocP$ above EP . νP cannot move to [Spec, EP] for ellipsis because it must move to [Spec, $AspP_1$] to check the uninterpretable [asp] feature on the high $AspP_1$. When the [asp] feature is checked by the deontic $ModP$, νP may move to [Spec, EP] and then be deleted (Section 5.4). This shows that although the EP at the νP left periphery projects in both languages, the mechanism that results in the unavailability of νP ellipsis in Xhosa differs from that in Mandarin.

8.4 The impossibility of adjunct ellipsis

Section 6.1.3 has shown that like Mandarin, in Xhosa, adjuncts, such as manner adverbials, are not allowed to be deleted (cf. Chapter 6 (28-29)). If an adjunct is deleted, the sentence may be grammatical, however, the deleted adjunct cannot be recovered semantically, as illustrated in (31).

- (31) a. U-John u-theth-a i-si-Xhosa *kakuhle*,
 aug-1.John sm1-speak-fv aug-6-Xhosa well
 na-ye u-Mary u-si-theth-a *kakuhle* [~~i-si-Xhosa~~].
 and-1 aug-1.Mary sm1-om6-speak-fv well aug-6-xhosa
 ‘John speaks Xhosa well and Mary does too.’
- b. *U-John u-theth-a i-si-Xhosa *kakuhle*,
 aug-1.John sm1-speak-fv aug-6-xhosa well
 na-ye u-Mary u-theth-a i-si-Xhosa [~~kakuhle~~].
 and-1 aug-1.Mary sm1-speak-fv aug-6-Xhosa well
 Intended: ‘John speaks Xhosa well and Mary does too.’
- c. *U-John u-theth-a i-si-Xhosa *kakuhle*,
 aug-1.John sm1-speak-fv aug-6-xhosa well
 na-ye u-Mary u-ya-si-theth-a [~~kakuhle i-si-Xhosa~~].
 and-1 aug-1.Mary sm1-dis.prs-om6-speak-fv well aug-6-Xhosa
 Intended: ‘John speaks Xhosa well and Mary does too.’

In (31a), while the object-marked DP *isiXhosa* is deleted, the manner adverbial *kakuhle* ‘well’ is not. The second conjunct means that Mary also speaks isiXhosa well. In (31b) and (31c), the manner adverbial is deleted in the target clause. The clause is not able to express the intended meaning in that the deleted adverbial cannot be reconstructed. This suggests that the manner adverbial cannot be deleted either in the conjoint form or in the disjoint form.

As I have argued in Section 7.3, in the disjoint form, manner adverbials are based-generated in a ν P-external position. They do not fall in the c-command domain of EP. As a result, they may not move to [Spec, EP] to satisfy the EEPF feature. In the conjoint form, manner adverbials are located inside ν P, i.e. the c-command domain of EP. According to the Ellipsis EPP Hypothesis, they are potential candidates, however, in this case, manner adverbials bear a focused reading and they move to [Spec, FocP] to realize the focus (Section 7.3). As a result, it is not possible to move to [Spec, EP] for ellipsis. Furthermore, as I have argued in Section 5.5, adjuncts like manner adverbials do not behave like arguments in respect of *trace*. Moved adjuncts do not leave *trace*; hence, providing they are elided, it is not possible to be reconstructed. For this reason, adjuncts cannot be elided.

8.5 Conclusion

In this chapter, I first shown that like Mandarin, there exists a parallel between ellipsis and movement in Xhosa. The constituents that must/can move out of vP can be licensed for ellipsis, whereas the constituents that may not move out of vP is not allowed to be elided. Based on this parallel and the syntactic structure of FocP and EP at the vP left periphery, the derivation of NP ellipsis, DP ellipsis, CP-complement ellipsis and infinitive-complement ellipsis are demonstrated within the Ellipsis EPP Hypothesis. When an object DP, CP complement or infinitive complement is not focused, it must be dislocated out of vP . Therefore, it is allowed to move to [Spec, EP] to satisfy the EEPP feature and is then deleted. When they are focused, they must move to [Spec, FocP] to realize the focus, and consequently they cannot move to [Spec, EP] for deletion. The NP complement of an object can move out of vP in the conjoint form and the disjoint form; consequently, it can move to [Spec, EP] and be then deleted. The Ellipsis EPP Hypothesis also precludes vP ellipsis in Xhosa. In Xhosa, vP must move to [Spec, FocP] to realize focus owing to the syntax-dominant property of focus-marking. As a result, it cannot move to [Spec, EP] for ellipsis.

This leads us to conclude that the Ellipsis EPP Hypothesis can account for ellipsis in both Mandarin and Xhosa. This indicates that in these two languages, there exists an EP at the vP left periphery. A constituent must be deleted as soon as it moves to [Spec, EP]. All maximal phrases in the c-command domain of EP can potential candidates for satisfying the EEPP feature on EP, however, the movement to [Spec, EP] must be subject to syntactic and semantic restrictions in the course of structure-building.

Chapter 9 Concluding Remarks

This study shows that these two typologically different languages, Mandarin and Xhosa, do not have the so-called V-stranding VPE. *vP* cannot be deleted in both languages. The evidence for this conclusion is that the constituents that must remain in *vP* are prohibited from being deleted in both Mandarin and Xhosa. However, there is indeed ellipsis taking place in the putative VPE construction. More crucially, there exists a parallel between the constituents that can be deleted and the ones that can/must move out of *vP*. The parallel in these two languages is inventoried in the tables below.

(1) The parallel between movement and ellipsis in Mandarin

<i>vP</i> -internal constituents	Movement out of <i>vP</i>	Ellipsis
Indefinite objects	×	×
Manner adverbials	×	×
Postverbal adjuncts	×	×
<i>De</i> -clauses	×	×
Definite objects	√	√
Infinitive complements	√	√
CP complements	√	√
<i>vPs</i> governed by modals	√	√

(2) The parallel between movement and ellipsis in Xhosa

	Conjunct form		Disjunct form	
	Movement out of <i>vP</i>	Ellipsis	Movement out of <i>vP</i>	Ellipsis
Objects without OM	×	×	N/A	N/A
Objects with OM	√	√	√	√
Manner adverbials	×	×	N/A	N/A
Infinitive complements	×	×	√	√
CP complements	×	×	√	√

In both Mandarin and Xhosa, the elided constituents support the PF-deletion analysis. The properties of the ellipsis site suggest that there is an internal syntactic structure, as shown in (3).

(3) The properties of the ellipsis site in the ν P domain

	Mandarin	Xhosa
Sloppy and mixed reading	√	√
Extraction	√	N/A
Providing an antecedent	√	√
Island effect	×	×

The research questions of this thesis were brought out by the non-existence of ν P ellipsis and the parallel between ellipsis and movement of the ν P-internal constituents. I repeat those questions as below in order to see how they were answered throughout this thesis.

- (i) Why can ν P not be deleted in Mandarin and Xhosa?
- (ii) How is the ellipsis of ν P-internal constituents derived? Is there a unified mechanism resulting in the ellipsis of those various constituents, or they are derived by different mechanisms?
- (iii) What mechanism triggers the parallel between ellipsis and movement illustrated in (6) and (7)?
- (iv) To what extent are the mechanisms behind the elided constituents in these two languages comparable to each other? What are the syntactic mechanisms, which result in these similarities in terms of ellipsis in Mandarin and Xhosa?

Section 9.1 – 9.3 discusses how this thesis answered these research questions. Section 9.4 inventories the issues left for future research.

9.1 The unified mechanism of ellipsis in Mandarin and Xhosa

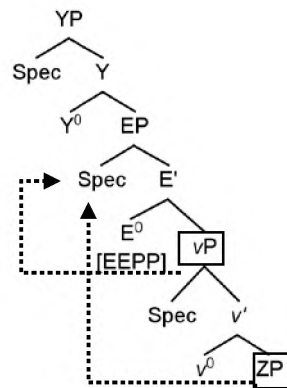
The Ellipsis EPP Hypothesis has been proposed to account for ellipsis in the ν P domain in Mandarin and Xhosa. The Hypothesis states that there is an Ellipsis Phrase at the left periphery of ν P and the EP bears an EEPP feature. An XP must be deleted when it moves to [Spec, EP] to satisfy the EEPP feature. The Hypothesis is represented in (4) and (5).

(4) Ellipsis EPP Hypothesis

- (i) There is an Ellipsis Phrase (EP) at the left periphery of ν P. The EP has an Ellipsis EPP feature (EEPP), which is somewhat anti-EPP. The EEPP feature renders an XP at [Spec, EP] zero phonetically and frozen syntactically.

- (ii) All maximal phrases in the c-command domain of EP are potential candidates for satisfying the EEPP feature by the Spec-Head relation (i.e. moving to [Spec, EP]). However, only the phrases that are allowed to move out of vP can move to [Spec, EP] as EP is located above vP.
- (iii) The movement to [Spec, EP] is subject to the syntactic and semantic restrictions in structure-building as ellipsis is one operation in the course of structure-building and the derivation will continue after ellipsis takes place.
- (iv) Ellipsis occurs as soon as the [EEPP] feature is satisfied.
- (v) No ellipsis takes place if the EP does not occur structurally.

(5) The structure of Ellipsis EPP Hypothesis



This study has demonstrated that the Ellipsis EPP Hypothesis successfully accounts for the ellipsis of all types of vP-internal constituents in both Mandarin and Xhosa. As it is shown in (5), providing that the requirements of movement out of vP are met, all maximal phrases in the vP domain can move to [Spec, EP] and be then deleted. In Mandarin, NP complements of objects, definite object DPs, CP complements, infinitive complements and vP complements of deontic modals are allowed to move to [Spec, EP] to satisfy the EEPP feature. As a result, they are licensed to be deleted. Similarly, in Xhosa, NP complements of objects, object DPs, CP complements and infinitive complements are potential candidates for moving to [Spec, EP]. Consequently, these constituents are licensed for ellipsis when they can/must move out of vP. This shows that there is one single mechanism (i.e. Ellipsis Phrase) resulting in the ellipsis of these various constituents in the vP domain in Mandarin and Xhosa.

At the same time, the Ellipsis EPP Hypothesis also accounts for the parallel between movement and ellipsis of the vP-internal constituents in these two languages. A constituent must move to [Spec, EP] and is then deleted; consequently, the parallel between movement and ellipsis is yielded.

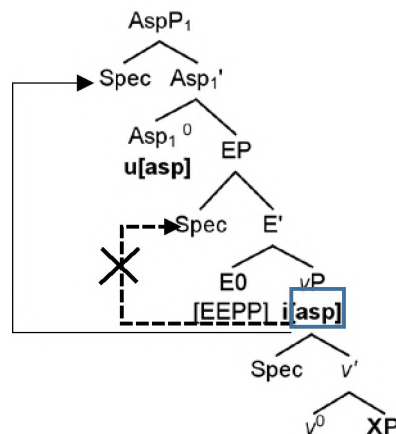
In addition, the Ellipsis EPP Hypothesis rules out the ungrammatical derivations of ellipsis in these two languages and adequately explains why constituents like indefinite objects in Mandarin and non-object-marked DPs in Xhosa, are prohibited from being deleted. For instance, indefinite objects in Mandarin and non-object-marked objects in Xhosa are maximal phrases in the c-command domain of EP and they are thus potential candidates for satisfying the EPP feature. However, the movement to [Spec, EP] is blocked since they cannot move out of vP for some independent reasons. As a result, they may not be elided.

The Ellipsis EPP Hypothesis provides a unified analysis for ellipsis of various vP-internal constituents in both Mandarin and Xhosa. It yields the grammatical derivations of ellipsis and also precludes the ungrammatical derivations. This leads to a significant overall simplification of the theory.

9.2 Non-existence of vP ellipsis in Mandarin and Xhosa

The Ellipsis EPP Hypothesis stipulates that all maximal phrases in the c-command domain of the EP are potential candidates for satisfying the EPP feature. vP is one of the potential candidates. However, in Mandarin, vP must move to the specifier of the higher AspP₁ to check the uninterpretable [asp] feature; as a result, it cannot move to [Spec, EP] for ellipsis. If vP moved to [Spec, EP] and was then deleted, it would leave the uninterpretable [asp] feature unchecked. The derivation crashes owing to the interface requirement of Full Interpretation. This is schematically represented in (6).

(6) The unavailability of vP-to-[Spec, EP] in Mandarin

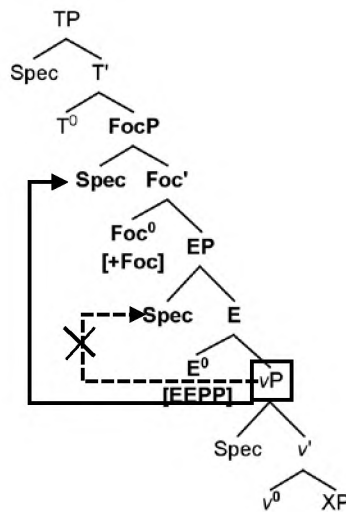


This is further confirmed by the Modal Complement Ellipsis. In Mandarin, vP is licensed to be deleted when it is governed by a deontic modal. In this case, the deontic ModP moves to [Spec, AspP₁] to check

the uninterpretable [asp] feature. Therefore, νP is allowed to move to [Spec, EP] and it will be elided as soon as the EEPP feature is satisfied.

In Xhosa, νP is not allowed to move to [Spec, EP] either. Xhosa is a syntax-dominant language in terms of focus marking. A focused constituent undergoes syntactic movement in order to realize the focus. More precisely, the focused constituent remains inside νP and moves to [Spec, FocP] via νP movement. As a result, νP is prohibited from moving to [Spec, EP], as illustrated in the structure below.

(7) The unavailability of νP -to-[Spec, EP] in Xhosa



The structures in (6) and (7) show that νP must move to a higher position in Mandarin and Xhosa and consequently, it cannot move to [Spec, EP]. In Mandarin, the νP movement is driven by the uninterpretable [asp] feature on the high AspP_1 . In Xhosa, the νP movement is attributed to the strong [+Focus] feature. The EEPP feature renders the constituent at [Spec, EP] inaccessible for further syntactic operations. If νP moved to [Spec, EP] and was then deleted, it would leave the features residing at these higher functional heads unchecked; as a result, the derivation would crash.

9.3 Ellipsis EPP Hypothesis and the theory of ellipsis

The Ellipsis EPP Hypothesis is novel and original in the sense that it claims there is an Ellipsis Phrase at the left periphery of νP and a constituent must be elided when it moves to [Spec, EP]. The EP is considered to be the same as other functional projections like TP and FocP. The EP has an EEPP feature, which, like a black hole, dissolves the accessibility of further syntactic operations and phonetic insertion. A constituent will become zero phonetically and frozen syntactically when it moves to [Spec, EP]. The EP projects only

if a language has a strong EPP feature. Languages such as Mandarin and Xhosa have a strong EPP feature; hence, EP projects. An XP in the c-command domain must move to [Spec, EP] to satisfy the EPP feature and then be deleted. In languages like English, the EP at the ν P left periphery does not project owing to the weak EPP feature. As a result, ellipsis occurs without moving to [Spec, EP].

However, the Ellipsis EPP Hypothesis is not entirely new. Firstly, the Hypothesis assumes that ellipsis occurs in the process of structure-building and the derivation will continue after ellipsis takes place. This has been advocated by Aelbrecht (2010). Secondly, following Merchant's (2001) Focus condition on ellipsis and the e-GIVENNESS, I argue that the EPP feature must not be focused semantically.

9.4 Conclusion

The above shown that this study answered all the research questions. The Ellipsis EPP Hypothesis proposed in this study provides a unified analysis, which accounts for all types of ellipsis in the ν P domain neatly - NP ellipsis, DP ellipsis, CP-complement ellipsis, infinitive-complement ellipsis and MCE in both Mandarin and Xhosa and reveals the reasons why ν P is prohibited from being elided in these two languages as well. The analysis can be extended in many ways. Firstly, it would be interesting to see to what extent the Ellipsis EPP Hypothesis can account for ellipsis in other Sino-Tibetan and Bantu languages, and what, if any, modifications need to be made in order to capture the derivation of ellipsis in those languages. More particularly, it is important to find out to what degree the Ellipsis EPP Hypothesis accounts for ellipsis in the rest of Nguni languages, namely Zulu, Swati and Ndebele, and some other related Bantu languages, like Swahili. Secondly, Chomsky (1998, 2000) claims that the EPP feature resides in all core functional categories (ν P, TP and CP). This thesis has shown that the EPP feature somewhat shares similar properties to the EPP feature. An interesting question is whether the EPP feature also resides in all core functional categories, which results in the ellipsis of each core domain. Thirdly, it would be worth establishing the issue of the relation between the EPP and EPP feature and revealing whether these two features are related to each other in a language. I will leave these interesting questions for the future research.

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