IP Internal Movement and Topicalization

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A Dissertation

Submitted in Partial Fulfillment of the

Requirement for the Degree of

Doctor of Philosophy

at the

University of Connecticut

2009

UMI Number: 3367364

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IP Internal Movement and Topicalization

Pei-Jung Kuo, Ph.D.

University of Connecticut, 2009

Abstract

In this dissertation, I investigate the phenomenon of internal topicalization cross-linguistically, using Chinese as a starting point. Internal topicalization refers to constructions in which a topic phrase is placed between the subject and the verb (in contrast to external topicalization, which involves a topic in the CP domain). I argue that internal topics do not occupy a fixed position (such as the specifier of a topic phrase, which is the case with external topic), but can occur in any projection of the IP domain—the location of internal topics can range from Spec ModalP to Spec vP. This proposal explains, among others, why multiple Left Dislocation internal topics are not possible, why only DP internal topics are allowed, and why animate nominals cannot be internal topics. I also show that an animate internal topic is only possible when it is accompanied by a differential object marker, which, I argue, can be realized by various prepositional and verbal forms in Chinese.

Furthermore, I propose that certain seemingly independent and unrelated optional movement constructions to the IP domain in Chinese can be subsumed under the premise of internal topicalization. These optional movements include object preposing, the Chinese BA construction, possessor raising, light verb constructions and the descriptive V-*de* construction. A detailed investigation of the syntactic and information structure properties of these constructions shows important similarities, which receive an explanation if these

constructions involve the same kind of operation—internal topicalization. I show that internal topicalization offers a new approach to several long-standing puzzles of the syntactic behavior of these constructions.

Finally, I extend my proposals based on Chinese to similar constructions in other languages, in particular, possessor raising in Korean and Japanese, and light verb constructions in Japanese. Although there are also different proposals regarding these constructions, I pursue the idea of a unified explanation of all these constructions by resorting to internal topicalization, which promotes the idea that topicalization is a pervasive phenomenon cross-linguistically.

APPROVAL PAGE

Doctoral of Philosophy Dissertation

IP Internal Movement and Topicalization
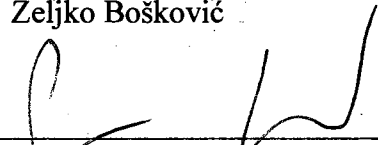
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because I had never seen a language and a phenomenon like that before. But now I can proudly say that not only do I know what V2 phenomenon is, I'm also discussing Icelandic Object Shift in this thesis! I thank Susi for her detailed instructions and very patient explanations in all the classes that she has taught. For a slow person like me, I did benefit a lot. I would also like to say that I enjoyed the independent studies that I have taken with Susi for the past two years. We tried to find the related issues to the proposal of internal topicalization, and we made it! Writing a dissertation is a sometimes boring and discouraging process, but Susi always encouraged me and tried to cheer me up. Her encouragement dug my potential and made me more confident in myself. (Yes, I can do it!).

I would also like to thank my two other committee members: Jonathan Bobaljik and Mamoru Saito. From my first general paper to my dissertation, Jonathan always gave me a lot of useful comments and I was always amazed by how knowledgeable he is. I also learned from him that we should not take a presupposed position and should examine things from different perspectives (but I also admit that this is sometimes annoying because my proposal then might not work). It is a pity that Mamoru can only show up at UConn once a year for seven to ten days. I really wish that he could have been in Storrs more often. The discussions with Mamoru about the similarities/differences between Japanese and Chinese always inspired me to read more relevant literatures and polish my analysis. I also enjoyed all his lectures about light verbs, scrambling, and ellipsis. One of my chapters is in fact inspired by his lectures about light verbs!

Other faculty members also played important roles in enhancing my linguistics knowledge in my UConn life here. Thanks to William Snyder and Diane Lillo-Martin on Acquisition, Yael Sharvit and Kimiko Nakanishi on Semantics, and Andrea Calabrese and

Arthur Wu, and my brother in law, David Prieto, who have helped me in many respects ever since I came to U.S. I know that you all love me, and I also love you all.

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Chapter 1 Introduction

1.1 Where is the 'Topic'?

Chinese does not have any case markers, agreement, or conjugation. In addition, Chinese is a *wh*-in-situ language. As a result, the studies of Chinese syntax often focus on word order, especially word orders other than SVO, which are assumed to be derived by movement, SVO being the basic word order in Chinese. For instance, example (1) is a canonical subject-verb-object sentence, and sentences (2) to (6) illustrate some well-studied constructions in Chinese. As word order differences are typically seen as the result of movement operations, these constructions have been central in investigations of the properties of movement in Chinese.

(1) Canonical sentence
    Geruisen kan-wan-le   zhe-ben shu.   (SVO)
    Grissom read-finish-ASP   this-CL book
    'Grissom finished reading this book.'

(2) BA construction
    Geruisen <u>ba</u> zhe-ben shu kan-wan-le.   (SOV)
    Grissom BA this-CL book read-finish-ASP
    'Grissom finished reading this book.'

(3) BEI construction (passive)
    Zhe-ben shu <u>bei</u> Geruisen kan-wan-le.   (OSV)
    This-CL book BEI Grissom read-finish-ASP
    'This book was finished reading by Grissom.'

(4) Relative Clause
    [NP Geruisen kan-wan-le   <u>de</u> zh-eben shu] zai zou-shang   (SV-de O)
       Grissom read-finish-ASP DE this-CL book on desk-top
    'The book that Grissom has finished reading is on the desk'

(5) Topic construction
    Zhe-ben shu, Geruisen kan-wan le.   (OSV)
    this-CL book Grissom read-finish-ASP
    'Grissom finished reading this book.'

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(6) Cleft construction (contrastive focus)   (OSV)
    Shi **zhe-ben shu**, Geruisen kan-wan-le   <u>de</u>.
    is this-CL book   Grissom read-finish-ASP DE
    'It is this book that Grissom has finished reading.'

As always, movement raises intriguing questions, but one may notice that these

constructions, with the exception of (5), also have another property in common. In addition

to the operation of movement, these constructions come with some 'markers', like the BA

marker in the BA construction, and the BEI marker in the passive construction, etc. Based on

these markers, one can easily identify which construction one is dealing with by just looking

at the marker. The only exception is the Topic construction. In (5), the object moves to a

position higher than the subject, but there is no marker for it.

But consider the following: maybe no marker is also some kind of a marker given that

all the other constructions come with a marker. It is just as in the following situation: if

Grissom's colleagues all wear hats with different colors but Grissom does not wear a hat, we

can still identify where Grissom is among his colleagues.

Given the above suggestion, a plausible hypothesis to pursue is that syntactically all

moved 'bare' constituents can be categorized as topics. Notice now that, in addition to the

pre-subject position, the object in (1) can also be preposed to a position which is located

between the subject and the verb, yielding the SOV order in (7). This movement is

positionally different from typical topicalization of the object in (5).

(7) Geruisen [_{DP} zhe-ben shu] kan-wan-le.   (SOV)
    Grissom   this-CL book read-finish-ASP

In the literature, there are two major proposals for the preposed object in (7). One is to

consider it a Focus, as in Shyu (1995), Ernst and Wang (1995), Li (1998) among others. The

other claim is that the preposed object is a Topic, as in Ting (1995) and Paul (2002). In order

to facilitate the discussion of the preposed object, in what follows, I will first summarize the different types of Topic and Focus.

1.2 Topic

There is a great deal of literature regarding topicalization in Chinese. It can be traced back to Chao (1986), Li and Thompson (1981), Xu and Langendoen (1985), Tang (1990), and Shi (2000), among many others. Since Chinese is considered to be a Topic prominent language (cf. Li and Thompson 1981), it is not surprising that there are various proposals regarding what counts as a Topic (syntactically, semantically or pragmatically), and how it is formed. In this dissertation I will follow the definitions in (8) and assume that a Topic in Chinese has to have at least the properties in (8).

(8) The properties of a Topic:
   a. A Topic needs to be associated with some element in the comment sentence.
   b. A Topic has to precede the predicate.
   c. There can be a pause or a modal particle following the Topic.
   d. A Topic can only be definite or generic.

Property (8a) relates to the fundamental question of how a topic can be formed. There are mainly two proposals about the formation of a topic: via movement or base-generation. I will not review these debates since that would be beyond the scope of this section. Rather, following Del Gobbo and Badan (2007), I will simply take a neutral stand and summarize what has been proposed in the previous research. According to Del Gobbo and Badan (2007), topics in Chinese can be divided into three subtypes, as shown in (9).

(9) a. Hua,   wo zui   xihuan baihe.   (Aboutness Topic)
      Flower I most like   lily
      'As for flowers, I like lilies most.'
   b. Zhe-ge ren$_i$,   wo hen   xihuan ta$_i$.   (Hanging Topic)
      this-CL person I very like   him
      'This person, I like him a lot.'

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c. Zhe-ben shu$_i$, Geruisen kan-wan-le t$_i$.   (Left Dislocation)
   This-CL book Grissom read-finish-ASP
   'This book, Grissom finished reading it.'

The major characteristic of the three different types of topic is the relationship

between the topic and its comment sentence. For the Aboutness Topic, there is no gap in the

comment sentence, i.e. the topic is base-generated where it is and is neither associated with a

resumptive pronoun nor a trace in the comment sentence. For the Hanging Topic, there is

always a pronoun co-indexed with it in the comment sentence. I assume that this type of

topic is also base-generated in its surface position.[1] As for the Left Dislocation Topic, this

topic is co-indexed with a trace which is left in the comment sentence. Hence, I assume that

this type of topic is derived by movement. These three different types of topics are

summarized in Table 1.1.

Table 1.1 Topic Formation in Chinese

	Aboutness topic	Hanging Topic	Left Dislocation
Feature	No gap	Resumptive pronoun	trace
Formation	Base-generation	Base-generation	Movement

Property (8b) is based on the common assumption of the 'Topic-Comment' sequence,

hence a topic cannot be at the end of a sentence. The definition of (8b) is a very broad one,

since subjects also count as topics under (8b). Indeed there have been proposals that in

Chinese, subjects are also non-marked topics (cf. Xu 1995). However, in this dissertation I

will not count subjects as topics.

Property (8c) can be illustrated by example (10). Different modal particles may

express different attitudes of the speaker (cf. Fang 1994 and Chu 1996). For example, the

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[1] But see also Chapter 3 for a potential movement approach for the Hanging Topic.

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modal particle 'a' in (10) expresses the speaker's attention about what he has just said. Also note that in a written context, a pause is usually expressed by a comma.

(10)   Zhe-ben shu   (a/ba/ma/ne), Geruisen kan-wan le.
         this-CL book   MOD   Grissom read-finish-ASP
         'This book, Grissom finished reading it.'

As pointed out by Xu and Liu (2007), the usage of a modal particle after a topic is not very common in Mandarin. But in some dialects, like ShangHai Dialect, it is a well-observed phenomenon.

Property (8d) (that the topic element can only be generic or definite) is one of the most notable properties of topics in Chinese (cf. Li and Thompson 1981). For example, a bare noun in Chinese can have the generic reading, hence in (11a), it can be topicalized. The topic 'dog' in (11a) refers to any kind of dog. A definite noun can be a topic as well, as shown in (11b). But an indefinite noun is excluded as a topic, as shown in (11c).

(11)   a. Gou, Geruisen hen xihuan.
            dog   Grissom very like
            'Grissom likes dogs a lot.'
         b. Zhe-zhi gou, Geruisen hen xihuan.
            this-CL dog   Grissom very like
            'Grissom like this dog a lot.'
         c. *Yi-zhi gou, Geruisen hen xihuan.
             one-CL dog   Grissom very like
             'Grissom likes a dog a lot.'

After this preliminary discussion of the nature of Topics, I will now turn to Focus.

1.3 Focus

In this section, I briefly discuss Focus in Chinese. Following the discussion in E Kiss (1998), I divide focus into two major types: information focus and contrastive focus. Two strategies are employed to mark focus in Chinese: emphatic stress and emphatic/focus

markers. In the following discussion, I will also use these two strategies. (For a different categorization see Gao 1994, Xu and Liu 2007 and Cheung 2008 among many others.) Note that foci will be set in bold, no matter which type of focus we are dealing with.

For information focus, it is well known that an answer to a *wh*-question belongs to this type, as shown in (12).

(12)   Q: Geruisen xihuan shei?
          Grissom like   who
          'Who does Grissom like?'
      A: Geruisen xihuan **Sala**.
          Grissom like   Sara
          'Grissom likes Sara.'

As for contrastive focus, there are two major ways to form it in Chinese; one is emphatic stress. Assuming that emphatic stress can fall on any constituent, we then expect that any constituent can be focused under this strategy. Indeed, as Gao (1994) points out, the emphatic stress can mark virtually any element in a sentence, turning it into a contrastive focus. Thus, any constituent can be marked as contrastive focus in (13). The stressed parts are marked in small caps.

(13)   a. **GERUISEN** kan-wan-le   zhe-ben xiaoshuo.
         Grissom read-finish-ASP this-CL novel
         'Grissom finished reading this novel.'
      b. Geruisen **KAN-WAN-LE**   zhe-ben xiaoshuo.
         Grissom read-finish-ASP this-CL novel
         'Grissom finished reading this novel.'
      c. Geruisen kan-wan-le   **ZHE-BEN** xiaoshuo.
         Grissom read-finish-ASP this-CL   novel
         'Grissom finished reading this novel.'
      d. Geruisen kan-wan-le   zhe-ben **XIAOSHUO**.
         Grissom read-finish-ASP this-CL novel
         'Grissom finished reading this novel.'

Second, in addition to the emphatically stress-marked focus, contrastive focus can also be marked morphologically.[2] These focus markers include *shi...de* ('it...is...'), *lian...dou* ('even...all'), *zhi (you)* ('only'), and *you (shi)* ('again') etc. These markers can mark in-situ elements or moved elements. For example, the focus- marked element is in situ in (14), while the focus-marked element is moved in (15).[3]

(14)   a. Geruisen zuotian   lai.   (in-situ)
                Grissom yesterday come
                'Grissom came yesterday.'
            b. Geruisen <u>shi</u> **zuotian**   lai   <u>de</u>.
                Grissom is yesterday come DE
                'It was yesterday that Grissom came.'

(15)   a. Zhe-ben shu, Geruisen kan-wan le.   (moved)
                this-CL book Grissom read-finish-ASP
                'Grissom finished reading this book.'
            b. <u>Shi</u> **zhe-ben shu**, Geruisen kan-wan-le   <u>de</u>.
                is this-CL book   Grissom read-finish-ASP DE
                'It is this book that Grissom has finished reading.'

These focus markers also have different focus interpretations because of their own lexical meanings. For example, the *shi...de* ('It...is...') focus is similar to the cleft construction in English. It comes with exclusiveness, where only one thing is highlighted, while the others in the comparison set are excluded. The focus marker *lian...dou* ('even...all') is used as an *even* focus. It highlights something which is least likely to happen. Hence in (15b), if there are three books on the desk, *Grissom* can only finish reading the specific book that the speaker is talking about. If he also finished the other two books, the sentence with *shi...de* focus will be judged to be false. On the other hand, sentence (16) is fine under the second

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[2] An optional emphatic stress can also be added to the element marked by these focus markers.
[3] There are constraints on where these focus markers can be used. They are not as free as emphatic stress. This has something to do with the nature of these focus markers. For example, neither *shi...de* ('It...is...') nor *lian...dou* ('even...all') marker can mark a postverbal object because they themselves contain some verbal elements which have to be adjacent to certain functional projections. See the following discussion where I give a more detailed description of this property of the *lian...dou* ('even...all') focus.

scenario. When used under that scenario, *Grissom* can finish all three books. It is just the case that 'this book' is the least plausible choice for *Grissom* to finish.

(16)   Geruisen lian **zhe-ben shu** dou kan-wan-le.
· Grissom even this-CL book all read-finish-ASP
'Grissom even finished reading this book.'

The above discussion is summarized in Table 1.2.

Table 1.2 Focus in Chinese

		Information focus	Contrastive focus	Note
Q&A		Any constituent	N/A	
Emphatic Stress	In-situ	N/A	Any constituent	Possible with movement (see below)
Focus Marker	In-situ	N/A	Depends on markers	Optional emphatic stress
	moved element	N/A	Depends on markers	Optional emphatic stress

Although there are various focus forming options in Chinese, in Chapter 2, I will mostly examine the *lian...dou* ('even...all') focus, as illustrated in example (16), where *lian...dou* marks an element that is moved in between the subject and the verb. There are two major reasons for this decision. First, Shyu (1995) has argued that a bare object that is placed in between the subject and the verb has a focus interpretation even without the *lian...dou* ('even...all') focus marker. I will, however, argue that such a bare object is not a focus. I will conduct a comparison between such preposed objects and the *lian...dou* ('even...all') focus, showing that they differ in several respects. Second, in the discussion of information structure at the CP domain in Chinese as in Shyu (1995), Paul (2002) and Del Gobbo and Badan (2007) and many others, the *lian...dou* ('even...all') focus is usually compared with topics in order to establish the hierarchy among them. Although my emphasis will be on the

domains lower than CP, such as TP and *v*P, I will also discuss topic and focus in the CP domain in order to lay out similarities/differences between the two.

I will now briefly describe the most prominent syntactic properties of the *lian...dou* ('even...all') focus. Other relevant properties will be discussed in Chapter 2. First, like the *shi...de* ('it is...') focus, the *lian...dou* ('even...all') focus can also mark both in-situ elements and moved elements. Note that in (17) the adverb 'today' can only appear in a preverbal position. It never occurs postverbally.

(17)   a. Geruisen {jintian} mei lai   shangban   {*jintian}.
            Grissom today   not come go-to-work   today
            'Grissom did not come to work today.'
        b. Geruisen lian **jintian** dou mei lai   shangban.   (in-situ)
            Grissom is   today   all not come go-to-work
            'Grissom did not even come to work today.'

(18)   a. Zhe-ben shu, Geruisen kan-wan-le.
            this-CL book Grissom read-finish-ASP
            'Grissom finished reading this book.'
        b. lian **zhe-ben shu,** Geruisen dou kan-wan-le.   (moved)
            even this-CL book Grissom all read-finish-ASP
            'Grissom even finished reading this book.'

Second, it is well-known that the *lian...dou* ('even...all') focus can mark any preverbal nominal (cf. (17b) and (18b)), but not a postverbal element like an object. This is shown in (19).

(19)   *Geruisen kan-wan-le   lian **zhe-ben shu**   dou.
        Grissom read-finish-ASP even this-CL   book all
        'Grissom finished reading even this book.'

Adopting a proposal of Shyu (1995), we may have a straightforward explanation for this restriction. Shyu (1995) proposes that the focus head *dou* projects its own focus projection, and the focused element is located in its Specifier, the adverbial *lian* being attached to it. The focus head *dou* has to select a predicate (*v*P or VP), which I interpret as the requirement for

dou to precede the *v*P/VP. Hence the focused part preceded by *lian* cannot be lower than *v*P/VP, which also means that focusing a postverbal object by *lian...dou* ('even...all') is not possible. Furthermore, because of the 'anchor' property of the predicate of *dou*, when comparing the following two sentences, Shyu (1995) proposes that (20b) is derived from (20a). That is, the constituent 'even this book' moves from the sentence internal position (Spec of FocP) to the sentence initial position (IP-adjoined position under Shyu's analysis).

(20)   a. Geruisen [lian **zhe-ben shu**] dou kan-wan-le.   = (16)
         Grissom even this-CL book all read-finish-ASP
         'Grissom even finished reading this book.'
     b. [lian **zhe-ben shu**] Geruisen dou kan-wan-le.   = (18b)
         even this-CL book Grissom all read-finish-ASP
         'Grissom even finished reading this book.'

I will address the relevant issues regarding examples in (20) in Section 2.7 in Chapter 2.

1.4 Syntactic Structure and Information Structure

There are various approaches to the syntactic representation of topics and foci. I will discuss two of those here: the cartographic approach (cf. Rizzi 1997 and its followers), and the mapping theory (cf. Heycock 1993/2007 for Japanese, Neeleman and van de Koot 2008 for Dutch).

First, let us assume that the following information structure is active in Chinese.

(21)   Information Structure
     a. Topic – Comment
     b. Focus – Presupposition/Background
     c. Topic > Focus
     d. Recursive Topic is possible

Under the cartographic approach, topics and foci have their own independent projections. So for (21a), we may have the following two structures.

(22)   TopP
          ╱   ╲
      XP   Top'
              ╱   ╲
          Top^0 YP   XP = topic   YP = Comment

(23)   FocP
          ╱   ╲
      ZP   Foc'
              ╱   ╲
          Foc^0 WP   ZP = topic   WP = Comment
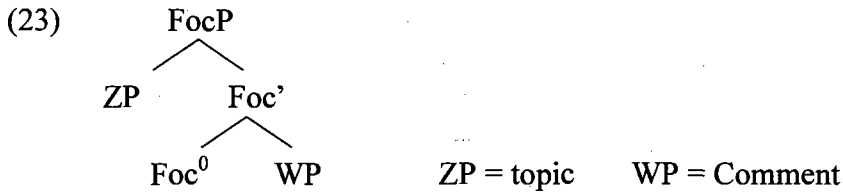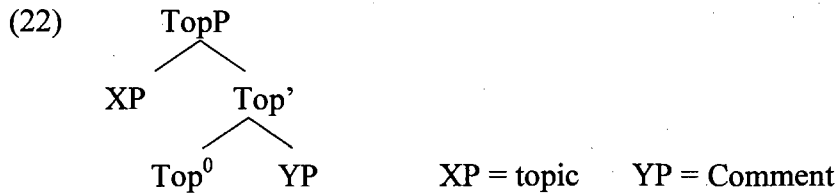
Movement of a constituent which is interpreted as a Topic/Focus is basically driven by feature checking. One way of implementing this is to assume that the constituent has a [uTopic/Focus] feature, and moves to Spec,TopicP/Spec,FocP to check its feature via Spec-Head Agreement. (In-situ Topic/Focus may move to these Topic/Focus projections via covert movement at LF.) The Topic/Focus projections in the CP periphery are shown in (24). The topic followed by the kleene star indicates that there may be multiple topics. For an object to become an external CP topic, it must move to the topic projection in (24).

(24)   TopP*
          ╱   ╲
          FocP
        ╱   ╲
            IP
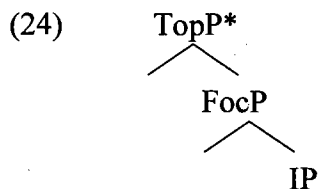
The Topic-Focus order in (21c) follows from the dominance relations between the Topic and Focus Projections. Note also that recursive Foci are impossible because once the Focus is formed, the background is interpreted as a presupposition (given information). Hence having a Focus (new information) under another Focus will cause an interpretive clash. But there is no such question raised by Topics, hence recursive Topics are possible (21d). The relevant difference between Topic and Focus then follows from pragmatics. This brings us to the mapping approach.

The mapping approach does not posit Topic and Focus projections, which means that Topicalization/Focalization are not driven by Topic/Focus feature checking. The approach also does not order the two in the syntax. The output of the syntax is simply mapped into information structure (IS) via mapping rules such as (25). Suppose that in Chinese, the topic interpretation of an object at IS needs an OSV order (cf. (8b)). Therefore sending a canonical SVO order to IS will not activate topic interpretation on this in-situ object. On the other hand, if an OSV/SOV order is formed in the syntax and sent to IS, the preposed object can receive topic interpretation. Neeleman and van de Koot (2008) adopt the mapping rules in (25). (21a,b) follow from the rules, as discussed above. (21d) may follow from the same reasoning mentioned above in the cartographic approach. As for (21c), it is assumed to be part of IS. For example, Neeleman and van de Koot (2008) assume that information structure representations are hierarchical: focus-presupposition/background can be part of a comment, but not the other way around, as in (27).

(25)   a. Comment Mapping Rule
          If XP in (26) is interpreted as topic, then interpret N_2 as comment.

        b. Background Mapping Rule
          If XP in (26) is interpreted as focus, then interpret N_2 as background.

(26) N_1
         ╱‾╲
     XP N_2
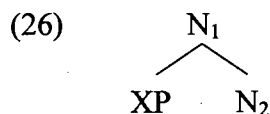
(27)   a. Topic [comment Focus [background ...]]
        b. *Focus [background Topic [comment ...]]

As one can see, the major difference between these two approaches is the existence of independent Topic/Focus projections. In Chapter 2, I will discuss internal and external topics in Chinese and investigate how the two approaches discussed above may explain the behavior of these topics, which share many properties, but also differ in several respects.

1.5 Outline of the Dissertation

In this dissertation, I will mainly focus on internal topics, that is, topics inside the TP and *v*P domains. I will investigate the *v*P periphery in Mandarin Chinese, focusing on some optionally preposed elements and the structures associated with them. Unlike other proposals in the literature, I will argue that when the preposed elements appear in a bare form without any marker, they should be considered as topics, not foci. Furthermore, I will address a variety of well-known constructions including possessor raising, the light verb construction, the verb copying construction, the BA construction, and others. Though they have been analyzed in a variety of ways in the literature, I propose that these constructions can all be subsumed under a unified analysis of 'internal topicalization' despite their seemingly unrelated structures. This claim is further supported by the fact that similar constructions are observed in Japanese, Korean, Hebrew, and German etc. Given that Mandarin Chinese is a topic-prominent language, the investigation of 'internal topicalization' can contribute to the better understanding of this important process in Mandarin Chinese.

In Chapter 2, I will first argue that, like the bare preposed object in the CP domain, the bare preposed object in the TP domain is a topic, not a focus as argued in various previous works. A comparison between the bare preposed object and the *lian...dou* ('even...all') focus will be conducted to show that they clearly differ from each other. The BA NP in the BA construction will also be argued to be a topic, more precisely, a topic in the *v*P domain. Lastly, I will argue that there is a major structural difference between the CP topic and the TP/*v*P topics. While the former is located in a dedicated Topic Projection, the latter are not. One piece of evidence for this difference concerns the obligatory occurrence of

a differential object marker with animate internal topics. While an external Topic Projection has no problem hosting an animate nominal, functional projections hosting an internal topic can only do that with the help of a differential object marker.

In Chapter 3, I discuss the possessor raising construction, arguing that this is a type of BA topic construction. I show that the possessor reading of *Sara* in (28) cannot be accounted for by a base-generation account (proposed in Huang 2008). Rather, such examples are derived by possessor raising (movement).

> (28)　　　Geruisen ba　Sala da-shang-le　shou.
> 　　　　　Grissom BA　Sara hit-hurt-ASP　hand
> 　　　　　'Grissom hurt Sara's hand.'

I will also show that possessor raising is a more general phenomenon than standardly assumed in Chinese, and that the application of possessor raising is subject to a PF spell-out restriction. Specifically, I will argue that if the possessor and its copies occur in different spell-out domains, the copies have to be overtly realized as resumptive pronouns. Last, the Affectee reading of *Sara* in (28) will lead to the discussion of Applicative projections. I will conduct a cross-linguistic comparison of possessor raising constructions and provide further support for the existence of different types of Applicative projections along the lines suggested by Pylkkänen (2008). Although possessor raising can be found in both the TP and the *v*P domain, we will see that the absence of an Applicative projection in the TP domain explains the absence of an Affectee reading on a possessor in the TP domain.

Finally, in Chapter 4, I examine two constructions: the light verb construction and the verb copying construction in Chinese. I argue that both of these constructions are related to TP topics.

(29)   The light verb construction
         CSI   zhe-ge   anzi jinxing-le   diaocha.
         CSI   this-CL case proceed-ASP investigation
         'CSI made an investigation of this case.'

(30)   The verb copying construction
         Geruisen [xie   zhongguo-zi]   xie-de   hen piaoliang.
         Grissom   write Chinese-character write-DE very beautiful
         'Grissom writes Chinese characters in a very beautiful way.'

Departing from common base-generation accounts proposed for the light verb construction

(cf. Grimshaw and Mester 1988), a movement account will be proposed to explain the

particular behavior of this construction. I will argue that the 'light' verb is not light at all, and

that the Theme argument in (29) in fact moves from the verbal noun projection

'investigation' to the clausal domain. I also propose that this movement is related to internal

topicalization in Chinese. As for the verb copying construction, I will argue that the part

containing the copied verb is not a VP, but an internal NP topic. The copied verb will be

argued to be a differential object marker. I will also examine various forms of differential

object markers in Chinese as well as their correlation with internal topicalization at the end of

the discussion.

Chapter 2 Internal Topics

2.1. Introduction

Though there are many relevant discussions of Topic/Focus projections before Rizzi (1997), Rizzi (1997) can be considered to be the most influential work on the fine structure of the CP domain. The cartographic approach to Topic and Focus has played an important role in the study of information structure since Rizzi (1997). A number of works followed up on Rizzi's proposals concerning the left periphery of CP, including Belletti (2004) regarding the low TP area, and Benincà and Poletto (2004) regarding the sublayers of CP.

In addition to Italian, investigations of other languages have also been carried out within Rizzi's framework. For example, Del Gobbo and Badan (2007) have established the left periphery for Mandarin Chinese. As discussed in Chapter 1, there are at least three different types of topics (as well as the corresponding topic projections) available in the TP-external position (i.e. the CP field): Aboutness Topic, Hanging Topic and Left Dislocation Topic. There is also an *even* Focus projection which is lower than all the topics. The order among them is shown in (1), and an example with all three types of topic is given in (2). Note that the order in (1) is a result of the orders of Topic/Focus projections.

(1) Aboutness Topic > Hanging Topic > Left Dislocation > *lian*-Focus > TP

(2) Wo de jiaren, baba, cong na-jia yinhang, wo yijing ti/wei ta   jiedao
    I   DE family father from that-CL bank   I already for   him   borrow
    hen duo qian   le.
    very much money ASP
    'As for my family, my father, from that bank, I already borrowed a lot of
        money for him.'

<div align="right">(Badan and Del Gobbo 2007: (74))</div>

Interestingly, the CP periphery is not the only domain where an object can be moved to, forming an OV order. Under certain circumstances to be discussed later, an object can be preposed to a position which is located between the subject and the verb, also yielding the OV order in (3). Note that this movement is positionally different from typical topicalization of the object in the OSV order.

(3) Geruisen [NP zhe-ben shu] kan-wan-le.   (SOV)
    Grissom   this-CL book read-finish-ASP
    'Grissom finished reading this book.'

In the literature, the fronted NP in (3) is usually called a preposed object. In this chapter, I will show that the so called preposed object is in fact a topic, not a focus as argued in Shyu (1995) and Ernst and Wang (1995). Like the topic located in the CP domain, this internal topic can also be divided into three types. Furthermore, in addition to the TP preposed object, I will also discuss TP-internal *even* focus and the BA topic. We will see that, as in Italian (cf. Belletti (2004)), we can find the topic-focus-topic order in the *v*P periphery in Chinese. However, I will argue that in contrast to TP-external topics, topics in the TP-domain and the periphery of *v*P do not have their own topic projection, which will be shown to explain several differences between external and internal topics.

2.2. The Bare Preposed object

In this section I will first discuss an example like (3), repeated here as (4), where the object has been preposed to a position between the subject and the verb.

(4) Geruisen [NP zhe-ben shu]$_i$ kan-wan-le   t$_i$.
    Grissom   this-CL book read-finish-ASP
    'Grissom finished reading this book.'

2.2.1 It is not a Focus.

The preposed object in (4) has been often considered to be a focus-bearing element (as proposed by Shyu 1995, Ernst and Wang 1995, and followed by many others). For example, Shyu (1995) has provided the topic-focus structure for Chinese shown in (5). The topic in the TP-external position is treated like the ones we have seen in Chapter 1. The claim regarding the presence of a focus projection in the TP-internal position is supported by sentences such as (6). The object 'this book' is moved to a TP-internal position and sandwiched by the focus markers *lian...dou/ye* ('even...all/also')[1]. The focus marker is given in bold.

(5) TopicP...TP...FocusP...AspP...VP

(6) Geruisen **lian** [NP zhe-ben shu] **dou/ye** kan-wan-le.
　　Grissom even　　this-CL book all/also read-finish-ASP
　　'Grissom even/also finished reading this book.'

Shyu (1995) also discusses the preposed object without a focus marker, as in (4). Shyu argues that the preposed object in (4) is also a focus, just like the one in (6). The only difference between the two is whether the focus marker is overt or covert. The major reasoning for this claim is that these two lexical items seem to occupy the same position. She provides several arguments for this proposal. For example, the preposed object in both (6) and (4) is higher than negation, dynamic modal and manner adverbs. I use negation as an illustration here.

(7) a. Geruisen **lian** [NP zhe-ben shu] **dou** meiyou kan-wan.
　　　Grissom even　　this-CL book all not　　read-finish-ASP
　　　'Grissom even hasn't finished reading this book.'
　　b. *Geruisen meiyou **lian** [NP zhe-ben shu] **dou** kan-wan.
　　　Grissom not　　even　　this-CL book all read-finish-ASP

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[1] Shyu (1995) claims that *dou* ('all') and *ye* ('also') are interchangeable. Though I believe there is an interpretation difference between these two adverbs, I will simply adopt Shyu's assumption here since I will mainly deal with the syntactic distribution of other elements in this chapter. I will use both of these adverbs as much as possible.

(8) a. Geruisen [_{NP} zhe-ben shu] meiyou kan-wan
    Grissom   this-CL   book   not   read-finish
    'Grissom didn't finish reading this book.'
  b. *Geruisen meiyou [_{NP} zhe-ben shu] kan-wan
     Grissom not   this-CL book read-finish

However, the following contrasts show that some distinctions should be made for TP-internal

elements with or without a focus marker. For example, in Chapter 1 we have seen that the

external topic can be an Aboutness Topic in Chinese, as shown in (9). The topic 'car' is an

Aboutness topic, which is related to the object 'truck' in the comment sentence.

(9) Chezi, Zhangsan xihuan kache.   (External Aboutness Topic)
    Car   Zhangsan like   truck
    'As for cars, Zhangsan likes truck.'

As Shyu points out, in the TP-internal position an Aboutness topic cannot appear with a

focus maker.

(10)   ?*Zhangsan **lian** chezi **dou** xihuan kache
        Zhangsan even car   all like   truck
        '?*Even cars, Zhangsan likes truck.'   (Shyu 1995: 89)

However, if the focus marker is dropped, the sentence becomes grammatical, as shown in

(11).[2]

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[2] One could argue that the subject in (11) is not a subject, but a topic. We could then be dealing here with a
double external topicalization construction. However, there are at least two arguments against this analysis. First,
as argued by Ernst and Wang (1995), some adjuncts must appear in the TP domain, as shown in (i). When we
have this kind of an adjunct and an internal Aboutness Topic in the same sentence, the adjunct may precede the
internal topic, as shown in (ii). This then shows that the internal topic is not in an external topic position.
  (i)   a. *Yizhi Geruisen bu kan dianying.
              always Grissom not see movies
              'Grissom always doesn't go to see movies.'
           b. Geruisen yizhi   bu kan dianyin.
              Grissom always not see moives
  (ii)   Geruisen yizhi chezi dou xihuan kache.
           Grissom always car   all like truck
           'As for cars, Grissom always like trucks.'
      The second argument comes from the existential construction in Chinese. In existential constructions,
the word *you* ('have') is generally assumed to mark the edge of TP (cf. Huang 1990). The following sentence
then shows that the internal topic is lower than the subject position.
  (iii)   You yige ren   chezi xihuan kache.
           have one person car like truck
           'As for cars, there is one person who likes trucks.'

(11)   Zhangsan chezi xihuan kache.
         Zhangsan car   like   truck
         'As for cars, Zhangsan likes truck.'

This contrast indicates that internal elements with or without a focus marker are indeed

different. Otherwise, we would expect ungrammaticality in both (10) and (11).

Furthermore, it is easy to show that a preposed object without a focus marker can co-

exist with a preposed object with a focus marker. In a double object construction like (12) we

can prepose both objects: one as a bare object and the other one as an object with a focus

marker.

(12)   Geruisen song-le   [NP zhe-ge ren]   [NP na-ben shu].
         Grissom give-ASP   this-CL person   that-CL book
         'Grissom gave this person that book.'

(13)   a. Geruisen [NP zhe-ge ren]   **lian** [NP na-ben shu] **dou** song-le
            Grissom   this-CL person even   that-CL book all   give-ASP
         b. Geruisen [NP na-ben shu]   **lian** [NP zhe-ge ren]   **dou** song-le
            Grissom   that-CL book even   this-CL person all   give-ASP

It is generally not possible to have two contrastive foci in a single sentence. For example, if

both indirect object (IO) and direct object (DO) appear with overt focus markers, the

sentence is ungrammatical, as shown in (14).

(14)   *Geruisen **lian** [NP na-ben shu] **dou lian** [NP zhe-ge ren]   **dou** song-le
          Grissom even   that-CL book all even   this-CL person all   give-ASP

Hence if the bare preposed object were a focus, as claimed by Shyu, the sentences in (13)

should be ungrammatical.[3]

If the preposed object is not a focus, what is it then? Ting (1995) and Paul (2002)

both argue that the preposed object is a secondary/internal topic, and it is located in an

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Based on these two arguments, I conclude that the sentence in (11) is not a double external
topicalization construction.
[3] Also see Paul (2002) for different syntactic/semantic arguments for the existence of internal topics.

internal topic projection.[4] I will pursue their proposal that the preposed object is a topic in the following discussion, but departing from them, I will provide evidence that the internal topic is not located in an internal topic projection.

Before proceeding to the next section where I argue for the existence of internal topics, I would like to address two more arguments that the preposed object has to be a focus. First, recall that external topics (cf. Chapter 1) cannot be indefinite. This is illustrated in (15).

(15)   *Yi-ben shu, Geruisen kan-wan-le.
          one-CL book Grissom read-finish-ASP
          'Grissom finished reading one book.'

Tsai (1994) shows that a preposed object can be an indefinite phrase as in (16). This then argues that the preposed object is a focus, but not a topic.

(16)   Wo yi-pian lunwen keyi yingfu, liang-pian jiu bu   xing   le.
          I   one-CL article can assume two-CL   then not possible PART
          'One article, I can handle, but tow is impossible.'

                                                                    (Tsai 1994: 138; (32))

However, I contend that this sentence is not evidence in favor of the proposal that a preposed object has to be focus. I agree with Tsai that the indefinite phrases in (16) are indeed foci, and they are contrastive foci. Note that there are two interesting properties of example (16). First, the two indefinite phrases in (16) must bear emphatic stress. Second, if the conjunct part is omitted, the sentence becomes unacceptable, as shown in (17).

(17)   *Wo yi-pian lunwen keyi yingfu.
          I   one-CL article can assume
          'One article, I can handle it.'

Furthermore, we also find the same pattern with indefinite phrases in the CP domain. This is shown in (18).

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[4] Ting (1998) proposed two accounts. In addition to the functional category treatment, she also suggested that the preposed object can be VP-adjoined (cf. also Ernst and Wang 1995).

(18)   a. Yi-pian lunwen, wo keyi yingfu, liang-pian jiu bu xing   le.
               one-CL article I   can assume two-CL   then not possible PART
               'One article, I can handle, but tow is impossible.'
      b. *Yi-pian lunwen, Wo keyi yingfu.
            one-CL article I   can assume
            'One article, I can handle it.'

Hence it seems that for indefinite phrases to be acceptable TP-externally or TP-internally, both emphatic stress and a contrastive conjunct are required (cf. Lu 1994). These two requirements then imply that we are in fact dealing with foci in both (16) and (18), as Tsai has claimed. But this does not entail that other preposed objects such as definite phrases have to be foci as well. Moreover, though indefinite phrases cannot be external topics (cf. (15) and (18b)), the existence of external topics is uncontroversial. Hence the generalization is that, bare indefinite fronted phrases can only be foci. This is exactly what we have observed with respect to the CP domain. Hence I conclude that (16) is not a counterexample to the existence of internal topics.

Second, Shyu (2002) points out that although a generic phrase is able to function as an external topic to express a generic judgment, it is not compatible with the SOV order.

(19)   a. Zoumingqu, Zhangsan xihuan tan, dajia   ye   xihuan ting
            sonata   Zhangsan like   play everyone also like   listen
            'As for sonatas, Zhangsan likes to play them and everyone also likes to listen
            to them.'   (Ting 1995: (3))
      b. #Zhangsan zoumingqu xihuan tan, (dajia   ye   xihuan ting).
            Zhangsan sonata   like   play   everyone also like   listen

Shyu further states that "a post-subject object can occur in a generic sentence only when the predicate has certain contrastive functions, such as to negate or emphasize" (Shyu 2001: 112), like the following sentence (20).

(20)   Zhangsan zoumingqu bu xihuan tan.
          Zhangsan sonata   not like   play
          'Zhangsan does not like to play sonatas.'

Shyu therefore argues that the contrastive function of the post-subject object in this position justifies treating it as a focus, not a topic. However, as shown in the literature, topics can be contrastive, too (cf. Kim 2001, Lahousse 2003, E Kiss 2008 among many others). Furthermore, using negation or emphasis is not the only way to make (19b) acceptable. Once we turn this generic phrase into an Aboutness topic, the sentence is perfectly fine, as shown in (21). In this sentence, 'sonata' is also interpreted as a generic term.

(21) Zhangsan zoumingqu xihuan tan XiaoBang-de zuopin.
    Zhangsan sonata like play Chopin-DE work
    'As for sonatas, Zhangsan likes to play Chopin's work.'

Hence it seems that a generic phrase can still be an internal topic (post-subject object in Shyu's term). But it has to be to an Aboutness Topic, rather than a Left Dislocation Topic.[5] There then seem to be more restrictions on the internal generic topic than the external generic topic. But this does not mean that the TP-internal preposed object has to be a focus, not a topic. As we will see in the following discussion, it is in fact generally true that there are more restrictions imposed on internal topics than external topics. I will show that these differences may be related to the landing sites of these two types of topics.

2.2.3 The TP Internal Topic

If the preposed object in the TP domain is indeed a topic, we would expect it to behave like an external topic at least in some respects. I will first show that the preposed object is a topic by comparing it to nouns that can appear in the external topic position. Following Liu (1997), Bender (2000) shows most G(eneralized)-specificity nouns (including definite NPs, universally quantified NPs and *most* or *some* NPs) can occur as external topics. Other NPs, like NPs with bare numeral determiners, decreasing NPs and NPs with modified

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[5] I have no explanation for this phenomenon at this moment.

numeral determiners, cannot.[6] If we apply this test to the preposed object, we would expect

the same result if the object is a topic. This prediction is borne out, as shown below.

(22) Definite NP
  a. Na-ben shu, Geruisen zui xihuan diyi hui.
   that-CL book Grissom most like first chapter
   'As for that book, Grissom likes the first chapter most.'
  b. Geruisen na-ben shu zui xihuan diyi hui.
   Grissom that-CL book most like first chapter

(23) Universally Quantified NP
  a. Suoyou de shu, Geruisen dou zui xihuan diyi hui[7]
   all DE book Grissom all most like first chapter
   'In all books, Grissom likes the first chapter most.'
  b. Geruisen suoyou de shu dou zui xihuan diyi hui.
   Grissom all DE book all most like first chapter

(24) Most N
  a. Daduoshu de shu, Geruisen dou zui xihuan diyi hui.
   most DE book Grissom all most like first chapter
   'In most books, Grissom likes the first chapter most.'
  b. Geruisen daduoshu de shu dou zui xihuan diyi hui.
   Grissom most DE book all most like first chapter

(25) Some N
  a. Mouxie shu, Geruisen zui xihuan diyi hui.
   certain book Grissom most like first chapter
   'In some (certain) books, Grissom likes the first chapter most.'
  b. Geruisen mouxie shu zui xihuan diyi hui.
   Grissom certain book most like first chapter

(26) Bare numeral determiners
  a. *San-ben shu, Geruisen song gei Sala.
   three-CL book Grissom give to Sara
   'Three book, Grissom gives to Sara.'
  b. *Geruisen san-ben shu song gei Sala.
   Grissom three-CL book give to Sara

---

[6] In Liu's (1997) test, the G(eneralized)-specificity nouns include NPs with bare numeral determiners, which are not acceptable as external topics, as pointed out by Bender (2000).

[7] The *dou* in (23) and (24) is the quantification *dou*, not the focus *dou* as in *lian...dou* ('even...all') construction. See Section 2.3.2 for differences between the two.

(27)　　Modified numeral determiners
　　　　a. *Shi-lai-ben　　shu,　Geruisen　song gei　Sala.
　　　　　　ten-about-CL　book　Grissom　give to　Sara
　　　　　　'About ten books, Grissom gave to Sara.'
　　　　b. *Geruisen shi-lai-ben　　shu　song gei　Sala
　　　　　　Grissom ten-about-CL　book　give　to　Sara

(28)　　Decreasing NPs
　　　　a. *Wu-ben-yixia-de　　　shu,　Geruisen song gei Sala.
　　　　　　five-CL-less.than-DE　book　Grissom give　to　Sara
　　　　　　'Less than five books, Grissom gave to Sara.'
　　　　b. *Geruisen wu-ben-yixia-de　　　shu　song gei Sala
　　　　　　Grissom five-CL-less.than-DE　book　give to Sara

The above data confirm that the preposed object is a topic since it patterns with the external topic.[8]

Furthermore, we may expect to find three different types of topic in the internal topic position, as proposed by Del Gobbo & Badan (2007) for the external topic/CP periphery (cf. Chapter 1). We have already seen that it is possible to have a moved topic (left dislocation) and an Aboutness Topic in the TP-internal position (cf. Paul 2002). These two types are illustrated in (29).

(29)　　a. Sala　hua　　zui　xihuan baihe.　　　　　　　　(Aboutness Topic)
　　　　　　Sara　flower　most　like　　lily
　　　　　　'As for flowers, Sara likes lilies most.'
　　　　b. Geruisen zhe-ben shu$_i$　kan-wan-le　　　t$_i$.　　　(Left Dislocation)
　　　　　　Grissom this-CL　book　read-finish-ASP
　　　　　　'This book, Grissom finished reading it.'

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[8] This test implies that these restrictions are not the same for focus. And this is indeed the case.
　　(i)　　Decreasing NPs
　　　　a. *Geruisen　wu-ben-yixia-de　　　shu　kan-bu-wan.　　　　(topic)
　　　　　　Grissom　five-CL-less.than-DE book　read-not-finish
　　　　　　'Grissom cannot finish reading less than five books.'
　　　　b. Geruisen lian　wu-ben-yixia-de　　　shu　dou　kan-bu-wan.　　(focus)
　　　　　　Grissom even five-CL-less.than-DE book　all　read-not-finish
　　　　　　'Grissom cannot finish reading even less than five books.'

Whether we can have a Hanging Topic as an internal topic is not completely clear. In (30a), when the preposed object is an animate nominal, the sentence is unacceptable. But when the preposed object is an inanimate nominal, there is speaker variation.

(30) a. *Sala Geruisen da-le ta.   (Hanging Topic)
      Sara Grissom hit-ASP he
      'Intended reading: Sara hit Grissom.'
     b. %Sala zhe-ben shu du-wan-le ta.
      Sara this-CL book read-wan-le it
      'This book, Sara finished reading it.'

Regarding the ungrammaticality of (30a), I will show that there is an interfering factor at work here. As I will discuss in Section 2.7, internal topics cannot be Personal Proper Names or Pronouns. Sentence (30a) is acceptable only when it means 'Grissom hit Sara', where Sara is the external topic and Grissom is the subject.

As for (30b), it has been reported that in Chinese, pronouns usually can only refer to human beings (cf. Li and Thompson 1981). Hence for speakers who judge (30b) to be ungrammatical, even if the preposed object is an external topic, when it is co-indexed with a pronoun, the sentence is still judged as ungrammatical, as in (31).

(31) %Zeh-ben shu, Sala du-wan-le   ta.
     This-CL book Sara read-finish-ASP it
     'Sara finished reading this book.'

But those who accept (30b) also accept (31), that is, for these speakers pronouns can refer to non-human entities. I have no explanation for this speaker variation at this moment. Since the status of internal Hanging Topic is not clear, I will mainly focus on the other two types of topics.

Though we can find some similarities between external and internal topics, there are also some differences between the two. As pointed out by Paul (2002), there are at least three differences between the external topic and the preposed object (i.e. an internal topic in my

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analysis) in Mandarin Chinese. First of all, an external topic can be a NP or a clause, but an internal topic can only be a NP.

(32)   Geruisen wang-le   [CP nayitian   kaihui]   (CP clause)
        Grissom forget-ASP   which.day hold meeting
        'Grissom forgot which day the meeting is.'

(33)   a. [CP nayitian   kaihui],   Geruisen wang-le
            which.day   hold meeting Grissom forget-ASP
        b. ?*Geruisen [CP nayitian   kaihui]   wang-le
            Grissom   which.day   hold meeting forget-ASP

(34)   Geruisen wang-le   [NP kaihui   de   riqi]   (NP)
        Grissom forget-ASP   hold.meeting DE date
        'Grissom forgot the date of the meeting.'

(35)   a. [NP kaihui   de   riqi], Geruisen wang-le
            hold.meeting DE date Grissom forget-ASP
        b. Geruisen [NP kaihui   de   ziqi] wang-le
            Grissom   hold.meeting DE date forget-ASP

However, Paul only discusses CP clauses. Interestingly, if we prepose a TP clause, as shown in (36) (for arguments for the existence of non-finite clauses in Chinese see Li 1990), topicalization is not available in either position, as shown in (37).

(36)   Geruisen bi   Sala   [TP PRO kan   na-ben   shu] (TP clause)
        Grissom force Sara   read   that-CL book
        'Grissom forced Sara to read that book.'

(37)   a. *[TP PRO kan   na-ben shu], Geruisen bi   Sala
            PRO read   that-CL book Grissom force Sara
        b. *Geruisen [TP PRO kan   na-ben shu] bi   Sala
            Grissom   PRO read   that-CL book force Sara

However, as pointed out by I-Ta Hsieh (p.c.), sentence (37) becomes grammatical if we add a dummy/light verb to the original TP position, which can be considered to be a case of *do*-support. Notice, however, that *do*-support cannot rescue topicalization in the TP-internal position.

(38)   a. [TP PRO kan   na-ben shu], Geruisen bi   Sala zuo-le
               PRO read   that-CL book Grissom force Sara do-ASP
        b. ?*Geruisen [TP PRO kan   na-ben shu] bi   Sala zuo-le
           Grissom   PRO read that-CL book force Sara do-ASP

Furthermore, VP preposing is impossible in the TP-internal position. But in the TP-external position, a VP topic is acceptable. [9]

(39)   Geruisen hui [VP changge]   (VP)
        Grissom can   sing
        'Grissom can sing.'

(40)   a. [VP changge], Geruisen hui
           sing   Grissom can
        b. *Geruisen [VP changge] hui
           Grissom   sing   can

If only NPs can be internal topics, we may also expect to find that Preposition Phrases (PP) cannot be internal topics. But things become more complicated when we turn to PPs. At first glance, it seems difficult to determine whether a PP can be an internal topic or not since PPs tend to always appear higher than the verb in Chinese. For example, in the following sentence the PP is higher than the verb; it cannot follow the verb at all. This indicates that the PP is not placed in the preverbal position in (41) via a topicalizing movement; rather, it is generated in this position.

(41)   a. Geruisen [PP cong yinhang] jie-le   qian.
        Grissom   from bank   borrow-ASP money
        'Grissom borrowed some money form the bank.'
        b. *Geruisen jie-le   qian [PP cong yinhang].
        Grissom borrow-ASP money   from bank

---

[9] If we add a contrastive conjunct to (40b), the sentence becomes grammatical, as shown in (i).
    (i)   Geruisen [VP changge] hui, [VP tiaowu] ye hui.
            Grissom   sing   can   dance also can
           'Grissom can sing. He can dance, too.'
However, as I have argued above for sentence (16), sentence (i) is simply an example of contrastive focus. An emphatic stress is required for the fronted VP, and the second conjunct cannot be omitted.

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Notice, however, that it is acceptable to topicalize this kind of PP to the external topic position, as shown below (cf. Xu and Langendoen 1985).

(42)   [PP Cong yinhang], Geruisen jie-le   qian.
         from bank   Grissom borrow-ASP money

There may be a way to determine whether the PP [from the bank] is in the TP or the vP/VP domain in (41a). Paris (1979) points out that regular PPs cannot precede modals or negation. But recall that a bare preposed object cannot be lower than negation, as illustrated in (8), repeated here as (43). The contrast in (44a-c) shows that in the presence of negation, the PP in (41a) is not as high as the bare preposed object in (43). Example (44d) also shows that the preposed object has to be higher than the PP.

(43)   a. Geruisen [NP zhe-ben shu] meiyou kan-wan
            Grissom   this-CL book not   read-finish
            'Grissom did not finish reading this book.'
         b. *Geruisen meiyou [NP zhe-ben shu] kan-wan
            Grissom not   this-CL book read-finish
         c. [NP zhe-ben shu], Geruisen meiyou kan-wan
            this-CL book   Grissom not   read-finish

(44)   a.*Geruisen [PP cong yinhang] meiyou jie   qian.
            Grissom   from bank   not   borrow money
            'Grissom did not borrow the money from the bank.'
         b. Geruisen meiyou [PP cong yinhang] jie   qian.
            Grissom not   from bank   borrow money
         c. *[PP cong yinhang], Geruisen meiyou jie   qian.
            from bank   Grissom not   borrow money
         d. Geruisen qian   meiyou [PP cong yinhang] jie.
            Grissom money not   from bank   borrow

Hence we may conclude that the PP [from the bank] in (41a) is in the vP/VP domain, rather than in the TP domain, where we find internal topics.

Interestingly, the examples below may be argued to be counterexamples to the claim that PPs cannot be internal topics. In (45b), the object is moved from a postverbal position,

and we may add a preposition-like element before it.[10] With the preposition-like element, we seem to have a PP in the internal topic position. Furthermore, this constituent [to this matter] can be externally topicalized as in (45c). Also notice that unlike the PP in (41a), the PP in (45b) can precede negation, as shown in (46).[11]

(45) a. Geruisen hen guanxin (*dui) zhe-jian shi
    Grissom very care to this-CL matter
    'Grissom cares about this matter a lot.'
  b. Geruisen (dui) zhe-jian shi hen guanxin
    Grissom to this-CL matter very care
  c. (dui) zhe-jian shi, Geruisen hen guanxin
    to this matter Grissom very care

(46) a. Geruisen (dui) zhe-jian shi meiyou hen guanxin
    Grissom to this-CL matter not very care
    'Grissom did not care about this matter too much.'
  b. Geruisen meiyou *(dui) zhe-jian shi hen guanxin
    Grissom not to this-CL matter very care
  c. (dui) zhe-jian shi, Geruisen meiyou hen guanxin
    to this-CL matter Grissom not very care

A conclusion that we can draw from the above discussion is that if the constituent [to this matter] is considered a PP, it should not be the same as regular PPs that we have seen in examples like (41a). I will discuss this type of 'PP' in Section 2.7, putting it aside for now.

  Another argument regarding PPs as internal topics comes from the Aboutness topic. Recall that the Aboutness topic is acceptable in both the external and the internal topic

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[10] However, notice that the object following *dui* is restricted because of the meaning of *dui* itself. Thus, not every preposed object can be introduced by *dui*, as shown in (i).
  (i) Geruisen (*dui) zhe-ben shu kan-wan-le.
     Grissom to this-CL book read-finish-ASP
     'Grissom finished reading this book.'
[11] The obligatory preposition in (46b) seems to imply that we are dealing with a real PP (like the one in (41a)) in this example. This then further implies that there may be two *guanxin* ('care') in Chinese. One is used transitively, while the other one is used semi-transitively/pseudo-transitively (cf. Huang 1984, T.-C. Tang 1988 and many others): the verb comes with an obligatory PP phrase. For example, *jiehuan* ('get married') is one of these semi-transitive verbs.
  (i) a. Geruisen [gen Sala] jiehuan.
     Grissom with Sara get-married
     'Grissom married Sara.'
    b. *Geruisen jiehuann Sala.
     Grissom get-married Sara

position. With the external Aboutness Topic we can add a preposition before it, forming a PP, but this is not allowed in the internal topic position. This is shown below.

(47)   a. Zhiyu hua,   wo zui   xihuan baihe.
          as for flower I   most like   lily.
          "as for flower, I like lily most.'
      b. *Wo zhiyu hua   zui   xihuan biahe.
          I   as for flower most like   lily

I then conclude that only NPs, but not other larger constituents (e.g. regular PP, VP, TP, CP) can appear in the TP-internal position as a topic.

Second, Paul points out that a Proper Name (of persons) or a pronoun can be topicalized to the external topic position, but cannot be preposed to the internal topic position (also cf. Hou 1979 and Lu 1994).[12,13]

(48)   Wo bu renshi Geruisen.   (Proper Name)
        I   not know Grissom
        'I don't know Grissom.'

(49)   a. Geruisen, wo bu   renshi.
          Grissom I   not know
      b. *Wo Geruisen bu   renshi.
          I   Grissom not know

(50)   Wo-de pengyou bu renshi ta.   (pronoun)
        I-DE   friend   not know him
        'My friend doesn't know him.'

(51)   a. Ta,   wo-de pengyou bu renshi.
          Him, I-DE friend   not know

---

[12] An example of preposing a Non-Person Proper Name is given below. Unlike the cases with Person Proper Names, such sentences are acceptable.
        (i)   Geruisen qu-guo   LunDuan.
               Grioom go-ASP   London
               'Grissom used to go to London.'
        (ii)   a. LunDuan, Geruisen qu-guo.   (external topic)
                  London,   Grissom go-ASP
               b. Geruisen LunDuan qu-guo   (internal topic)
                  Grissom London go-ASP
[13] There seems to be some speaker variations on this. For example, Jiang (1991) and Li (1998) judge sentence (49b) as grammatical. My consultants' and my intuition is the same as the one noted by Paul (2002). See section 2.7 for an explanation for this difference.

b. *Wo-de pengyou ta   bu   renshi
   I-DE   friend   him not know
   (Intended meaning: My friend doesn't know him.)

However, there is evidence showing that this generalization may not be quite accurate.

Recall that for some verbs, the preposed object is compatible with an optional preposition-

like element *dui* ('to'). If we use this kind of verb and the preposition-like element, both

Proper Name of persons and pronouns become acceptable in the internal topic position, as

shown below.

(52)   a. Geruisen hen guanxin Sala
            Grissom very care   Sara
            'Grissom cares about Sara a lot.'
         b. Geruisen *(dui) Sala   hen   guanxin
            Grissom   to   Sara   very care
            'Grissom cares about Sara a lot.'

(53)   a. Geruisen hen guanxin ta
            Grissom very care   she
            'Grissom cares about her a lot.'
         b. Geruisen *(dui) ta   hen guanxin
            Grissom   to   she   very care
            'Grissom cares about her a lot.'

Thus I conclude that it is possible to have both animate Proper Names and pronouns

as internal topics, as long as they appear with *dui* ('to'). (See Section 2.7 for an explanation

for this phenomenon.)

Finally, Paul claims that the external positions allow multiple topics. But only one

preposed object is allowed in the internal topic position.[14]

(54)   [NP Nan-pai],   [NP yajun],   women hai keneng   nadao.
            man-volleyball   second place   we   still probably obtain
            'The men's volleyball, perhaps we can still get the second place.'

---

[14] As pointed out by Paul (2002), the sentence is acceptable as the complex single NP reading (*nan-pai (de)* *yajun* 'the second place of the men's volleyball'). But that reading is ignored here since it is irrelevant to our concerns.

(55)   *Women [NP nan-pai]   [NP yajun]   hai keneng   nadao.
         we   man-volleyball   second place still probably obtain

(Fan Jiyan 1984: 30-31)

However, I would like to argue that the last observation is not quite correct if we compare

(55) to (56). If we simply add a modal in between these two topics the sentence becomes

grammatical.

(56)   Women [NP nan-pai]   yinggai [NP yajun]   hai   keneng
         we   man-volleyball possible   second place still probably
         nadao.
         obtain
         'The men's volleyball, it is possible that perhaps we can still get the second
         place.'

Then, the ungrammaticality of sentence (55) cannot be due to the impossibility of

multiple internal topics. Based on the current data, I suggest that the correct generalization is

that having multiple adjacent topics is not allowed for internal topics. But once they are

separated, multiple topics are allowed. Also note that here multiple internal topics refer to

topics which belong to different types. In (55) we have an Aboutness Topic followed by a

Left dislocation Topic. The first NP 'men's volleyball' is an Aboutness Topic since it cannot

be derived by movement. There is no gap in the comment sentence that we could put this

Aboutness Topic back in.

We then may want to examine if multiple topics of the same type are allowed in both

external and internal positions. Note that for external topics, multiple topics of the same type

are excluded independently. The only exception concerns Left Dislocation Topics, shown in

(57).

(57)   a. [NP Zhe-jia gueryuan], [NP na-xie   shu], Geruisen song-le
            this-CL orphanage   that-PCL book   Grissom   give-ASP
            'Grissom gave this orphanage those books.'
         b. [NP na-xie   shu] , [NP zhe-jia gueryuan], Geruisen song-le
            that-PCL book   this-CL orphanage   Grissom   give-ASP

But also notice that even when multiple Left Dislocation Topics are allowed, they are restricted to NPs only. For example, as point out by Shyu (2001), multiple PP topicalization results in ungrammaticality. If only one (either one) PP is topicalized, the sentence is acceptable.[15]

(58)   a. Zhangsan cong Meiguo ji-le   yi-ben shu gei Lisi.
                Zhangsan from USA   send-ASP one-CL book to Lisi
                'Zhangsan sent a book to Lisi from the USA.'
      b. *Gei Lisi$_2$, cong Meiguo$_1$, Zhangsan t$_1$ ji-le   yi-ben shu t$_2$.
                To Lisi   from USA   Zhangsan   send-ASP one-CL book
                                          (Shyu 2001: (29))

Two Aboutness Topics or two Hanging Topics are not allowed in the external position. An example with two Hanging Topics is given in (59). The unacceptability of such examples is also pointed out by Del Gobbo & Badan (2007).

(59)   *Geruisen$_i$, zhe-ge   ren$_j$, ta$_i$ sha-le   ta$_j$.
              Grissom   this-CL person he kill-ASP he
              'Grissom killed this person.'

However, Del Gobbo & Badan (2007) argue that multiple Aboutness Topics are grammatical. Among the five sentences that they give, three of them are like the one in (60). They seem to assume that both 'fruit' and 'apple' are Aboutness topics. However, another way to derive this sentence is to have the NP 'apple' moved from the postverbal position, stranding the number modifier behind. If this is the case, we may in fact have an Aboutness and a Left Dislocation Topic in this kind of sentence.

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[15] Del Gobbo & Badan (2007) have the following multiple PP topicalization sentence and judge it grammatical.
    (i)   Cong zhe-jia yinhang$_i$, ti/wei Zhngsan$_j$ wo zhidao women keyi t$_i$ t$_j$ jiedao hen duo qian.
             From this-CL bank   for   Zhangsan I know we   can   borrow very much money
             'From this bank, for Zhangsan, I know we can borrow a lot of money.'
However, it seems to me that the first fronted PP is an Aboutness Topic rather than a Left Dislocation Topic since there is a strong connection between the bank and the money. Hence I will not consider this sentence as a counterexample for the above generalization.

(60)   Shuiguo, pingguo, wo chi le   liang-ge.
         fruit   apple   I   eat ASP two-CL
         'As fruits, as for apples, I ate two.'

Another sentence provided by them is judged ungrammatical by my consultants and me.

(61)   %Wo de   jiaren, wo de   fumu,   muqin yijing tuixiu le
         I   DE family I   DE parents mother already retire ASP
         'AS for my family, as for my parents, my mother already retired.'

The only sentence that indeed seems to be grammatical is shown below.

(62)   Wo de   huayuan, na-ke   shu, yezi da.
         I   DE graden   that-CL tree leaf big
         'In my garden, that tree, leaves are big.'

However, there is a long-standing debate regarding whether 'that tree' in such examples is a

topic or a subject (cf. Li and Thompson 1981, Shyu 1995, Xu 2004-2005, Hsu and Ting 2006,

Hsu 2008a, Zhang 2009 and many others). Furthermore, regarding the Aboutness Topic, I

assume that even without the Aboutness Topic, the comment sentence itself should be

grammatical since an Aboutness Topic only adds an aboutness relationship. This is shown in

(63)

(63)   (hua),   wo zui   xihuan baihe.
         flower I   most like   lily
         'As for flowers, I like lily most.'

But if we drop 'that tree', the sentence with only 'leaf' is ungrammatical (cf. Zhang 2009).

(64)   *(Na-ke   shu), yezi da.
         that-CL tree   leaf big
         'The tree's leaves are big.'

Consequently, I will not treat sentence (64) as an illustration of multiple Aboutness Topics.

See also Chapter 3 for discussion of (64) under the proposal of possessor raising.

As for internal topics, at first sight it seems that no multiple topics of the same type

are allowed, even with multiple Left Dislocation NP Topics. Although Ting (1995) judges

the following sentences in (66) as grammatical for multiple Left Dislocation Topics, they are both rejected by my consultants and me.

(65)   Wo yijing   gaosu-le Zhangsan nei-ge   xiaoxi.
        I   already tell-ASP Z.   that-CL news
        'I already told Zhangsan these news.'

(66)   a. *Wo, Zhangsan, nei-ge   xiaoxi, yijing   gaosu-le.
           I   Z.   that-CL news   already tell-ASP
        b. *Wo, nei-ge   xiaoxi, Zhangsan, yijing   gaosu-le.
           I   that-CL news   Z.   already tell-ASP

(Ting 1995: (25))

But notice that the unacceptability of the sentences in (66) may be due to the fact that animate nominals cannot be internal topics.[16] I will then test another double object construction, avoiding using animate nominals. The result is the same, as shown in (68) (cf. J. Li 1998 and Shyu 2001).

(67)   Geruisen song-le   [NP zhe-jia gueryuan] [NP na-xie   shu].
        Grissom give-ASP   this-CL orphanage   that-PCL book
        'Grissom gave this orphanage those books.'

(68)   a. ?*Geruisen [NP zhe-jia gueryuan] [NP na-xie   shu] song-le (IO-DO)
              Grissom   this-CL orphanage   that-PCL book give-ASP
        b. *Geruisen [NP na-xie shu]   [NP zhe-jia gueryuan] song-le (DO-IO)
             Grissom   that-PCL book   this-CL orphanage give-ASP

However there is a way to make the sentences in (68) grammatical. Like the case in (55), if a modal is inserted in between the preposed objects, the sentence improves a great deal, as in (69).[17]

(69)   a. Geruisen [NP zhe-jia gueryuan] keneng [NP na-xie   shu] song-le
           Grissom   this-CL orphanage possibly   that-PCL book give-ASP
           'It is possible that Grissom gave this orphanage those books.'

---

[16] For (66), I think the awkwardness is also caused by the verb *gaosu* ('tell') in the relevant examples. Replacing it with another verb such as *tongzhi* ('inform') improves the example a lot. For instance, example (66a) then is grammatical, but only under the interpretation that 'Zhangsan informed me about these news' (that is, when Zhangsan is not an internal topic).
[17] But overall, no matter whether we are dealing with an external or an internal topic, it is best to front only one object.

b. Geruisen [NP na-xie   shu]   keneng [NP zhe-jia gueryuan] song-le
Grissom   that-PCL book possibly   this-CL orphanage give-ASP

Hence we may conclude that multiple Left Dislocation NP topics are also allowed in the internal topic field, as long as they are not adjacent to each other.

The unique syntactic properties of internal topics are summarized below:

(70)   The properties of an internal topic:
    a. It can only be a G(eneralized)-specificity NP (though not an NP with bare numeral determiner).
    b. It can be a Proper Name of persons or a pronoun iff it is preceded by a preposition-like element *dui* ('to').
    c. Two internal topics are allowed only when they are not adjacent to each other.

I will come back to these properties after I introduce the *even* focus.

2.3 The *Even* Focus

In this section I discuss preposed objects with emphatic markers *dou/ye* ('all/also') and argue that they should be treated in the same way as the *lian...dou/ye* ('even...all/also') focus.

2.3.1 The Preposed Object with an Emphatic Marker

Ernst and Wang (1995) note that though they are optional, emphatic markers like *dou* 'all', *ye* 'also' and *bu* 'not' are preferred for the preposed object. I use *ye* ('also') as an illustration here:

(71)   Geruisen gangqin (**ye**) hui tan.
    Grissom piano   also can play
    'Grissom can (also) play the piano.'

They argue that the preference for an emphatic marker shows that the preposed object is a focus since the emphatic marker makes the contrast reading clearer.

However, as pointed out by Ernst and Wang themselves and J. Li (1998), a preposed object without an emphatic marker exhibits different syntactic behavior from a preposed element with an emphatic marker. This can be seen from interaction with deontic modals. As shown in (72) and (73), a preposed object without an emphatic marker must be higher than a deontic modal, but if it has an emphatic marker, it can be either higher or lower than the deontic modal.

(72)   a. Geruisen zhe-ben shu   keyi mai
            Grissom this-CL book can   buy
            'Grissom can buy this book.'
         b. *Geruisen keyi   zhe-ben shu   mai
            Grissom   can   this-CL book buy

(73)   a. Geruisen zhe-ben shu ye   keyi   mai
            Grissom this-CL book also can   buy
            'Grissom can also buy this book.'
         b. Geruisen keyi zhe-ben shu ye   mai
            Grissom can   this-CL book also buy

The above contrast shows that the preposed object without an emphatic marker is placed differently from the preposed object with an emphatic marker. The former is syntactically higher than the latter (or the object with an emphatic marker at least can be lower than the one without the marker). This is especially clear if we have a double object construction, when one object is the preposed object without an emphatic marker and the other one with an emphatic marker. The order shows that the former is indeed higher than the latter.

(74)   a. Geruisen [NP zhe-jia gueryuan] [NP na-xie shu] ye song-le (IO-DO)
            Grissom   this-CL orphanage   that-PCL book also give-ASP
         b. Geruisen [NP na-xie   shu] [NP zhe-jia gueryuan] ye song-le (DO-IO)
            Grissom   that-PCL book   this-CL orphanage   also give-ASP

(75)   a. *Geruisen [NP zhe-jia gueryuan] ye [NP na-xie   shu] song-le
            Grissom   this-CL orphanage also   that-PCL book give-ASP

b. *Geruisen [NP na-xie   shu] **ye** [NP zhe-jia gueryuan] song-le
   Grissom   that-PCL book also   this-CL orphanage give-ASP

Interestingly, regarding the interaction with deontic modals, the preposed object with

an emphatic marker in (73) shows the same pattern as a focused object with the overt focus

marker *lian...dou/ye* in (76). In other words, both of them can be either higher or lower than

the deontic modal.

(76)　　a. Geruisen **lian** zhe-ben shu **dou/ye** keyi   mai
　　　　　 Grissom even this-CL book all/also can   buy
　　　　　 'Grissom can even buy this book.'
　　　　b. Geruisen keyi **lian** zhe-ben shu **dou/ye** mai
　　　　　 Grissom can   even this-CL   book all/also buy

Recall that the preposed object without an emphatic marker can only be a NP.

However, the preposed object with an emphatic marker can be of any syntactic category, as

shown from (77) to (80). This behavior is also very similar to that of a focused object.

(77)　　a. Geruisen [CP nayitian   kaihui]   **ye** wang-le   (CP)
　　　　　 Grissom   which.day hold meeting also forget-ASP
　　　　　 'Grissom also forgot which day to hold the meeting.'
　　　　b. Geruisen **lian** [CP nayitian   kaihui]   **ye** wang-le
　　　　　 Grissom even   which.day hold meeting also forget-ASP
　　　　　 'Grissom even forgot which day to hold the meeting.'

(78)　　a. Geruisen [TP PRO kan   na-ben shu] **ye** bi   Sala   zuo-le   (TP)
　　　　　 Grissom   PRO read that-CL book also force Sara   do-ASP
　　　　　 'Grissom also forced Sara to read that book.'
　　　　b. Geruisen **lian** [TP PRO kan na-ben shu] **ye** bi   Sala   zuo-le
　　　　　 Grissom even   PRO read that-CL book also force Sara   do-ASP
　　　　　 'Grissom even forced Sara to read that book.'

(79)　　a. Geruisen [VP changge] **ye** hui   (VP)
　　　　　 Grissom   sing   also can
　　　　　 'Grissom also cannot sing.'
　　　　b. Geruisen **lian** [VP changgee] **ye** hui
　　　　　 Grissom even   sing   also can
　　　　　 'Grissom even cannot sing.'

(80)   a. Geruisen [PP zai chuang shang] ye   kan shu   (PP)
         Grissom   at bed   up   also read book
         'Grissom also read books at bed.'
         b. Geruisen **lian** [PP zai chuang shang] ye   kan shu
         Grissom even   at bed   up   also read book
         'Grissom even read books at bed.'

Based on these similarities, I argue that the preposed object with an empathic marker is

indeed a focus. And the emphatic marker is not optional. When the focus marker is not there,

the preposed object is interpreted as a topic. When it shows up, the preposed object is a

focus.[18]

As mentioned in Chapter 1, Shyu (1995) proposes that the focused object with

lian...dou is located in a focus projection. The head of this focus projection is *dou/ye*. It

selects a predicate or a *v*P/VP. I will simply adopt Shyu's proposal for an independent focus

projection in Chinese. Regarding *lian* ('even'), it is an optional adverbial-like focus marker

attached to the phrase in the Spec position of the focus projection.[19] Because of its optionality,

Paul (2005) proposed that with *lian* or without *lian*, we get the same *even* focus interpretation.

However, in Section 2.7, I will show that the focus marker *lian* is not completely optional.

2.3.2 One *dou* or Two *dou*'s?

I now take a small detour before proceeding to the next section. The focus *dou* in the

focus projection is reminiscent of the quantification *dou* in the following sentence.

(81)   Geruisen zhe-xie shu   **dou** kan-wan le.
         Grissom this-PCL book   all   read-finish-ASP
         'Grissom finished reading all these books.'

---

[18] Example (16) was an exception since it involves an indefinite phrase with emphasis stress and an obligatory conjunct clause (see Section 2.2.1 relevant discussion. Here I am putting aside such examples.
[19] To be more specific, *lian* ('even') is optional with *ye* ('also'). It is also optional with *dou* ('all') when the noun preceding *dou* is singular, but obligatory when the noun is plural. This difference is because of the ambiguous status of *dou*: it can be a quantificational element or a focus marker when the noun preceding it is plural. See the discussion in section 2.3.2.

It is an interesting question whether there are two different *dou*'s in Chinese. As observed in the literature (see, e.g. Gao 1994 and Shyu 1995), when the NP before *dou* is singular, there can be only one interpretation: the focus *dou*. Quantification *dou* is not available since it requires a plural noun. Notice that the modifier *lian* ('even') is optional under this situation. On the other hand, if the NP is plural, without *lian*, *dou* is interpreted as a quantification *dou*. Only with the co-occurrence of *lian* ('even') can *dou* receive a focus reading.

(82)   Geruisen **(lian)** zhe-ben shu   **dou** kan-wan le.   (focus)
         Grissom   this-CL book all   read-finish-ASP
         'Grissom (even) finished reading all of this book.'

(83)   Geruisen zhe-xie   shu   **dou** kan-wan le.   (quantification)
         Grissom this-PCL book   all   read-finish-ASP
         'Grissom finished reading all these books.'

(84)   Geruisen **lian** zhe-xie   shu   **dou** kan-wan le.   (focus)
         Grissom even this-PCL book all   read-finish-ASP
         'Grissom even finished reading these books.'

Shyu (1995) argues that there is no need to postulate two different *dou*'s. According to Shyu, the different interpretations of *dou* are determined by the NP preceding it. Recall that Shyu proposes an independent focus projection, and *dou* is in its head position. If there is only one *dou*, it means that the quantification *dou* is also in the head position. This predicts that we should expect similar syntactic patterns when *dou* interacts with other elements no matter whether it is interpreted as a focus or a quantification *dou*. However, the following contrast pointed out by Shyu (1995) shows that we do need two different *dou*'s. When *dou* is a focus *dou*, it has to precede the negation. But *dou* can either precede or follow negation (with different readings) when it is interpreted quantificationally. This is shown in (85) and (86) respectively.

(85)   a. Geruisen **lian** zhe-ben shu **dou** meiyou kan-wan.
             Grissom even this-CL book all not read-finish
             'Grissom didn't finish reading even this book.'
         b. *Geruisen **lian** zhe-ben shu meiyou **dou** kan-wan.
             Grissom even this-CL book not all read-finish

(86)   a. Geruisen zhe-xie shu **dou** meiyou kan-wan. $(\forall > \neg)$
             Grissom this-PCL book all not read-finish
             'Grissom didn't finish reading these books at all.'
         b. Geruisen zhe-xie shu meiyou **dou** kan-wan. $(\neg > \forall)$
             Grissom this-PCL book not all read-finish
             'Grissom didn't finish reading all these books.'

Shyu adopts an analysis in which negation has its own projection. This analysis is compatible with the facts in (85). The focus projection is simply higher than the negation projection. However, the facts in (86) pose a problem if there is only one *dou*. The quantification *dou* would also have to be in the head position of the focus phrase, but the negation projection would then intervene between Spec FocP and the focus head.

I conclude, therefore, that two *dou*'s have to be distinguished in Chinese, as proposed in Gao (1994).[20] One is the focus *dou*, as claimed by Shyu, and the other is the quantification *dou*. The former is in the head position of the focus projection, and I will assume that the latter is a floating quantifier in the sense of Sportiche (1998) (cf. L. Cheng (1995) and H. Cheng (2007))[21]. This distinction can explain the above facts, with the assumption that there are two AspP projections in Chinese and the negation *meiyou* is located in the head position of the higher AspP (cf. Huang, Li and Li 2009 and discussions below).[22] Thus in sentence (86b), *dou* is stranded in the adjoined position of *v*P. On the other hand, *dou* and the preposed

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[20] As pointed out by Gao (1994), we in fact can have both focus *dou* and quantification *dou* appearing at the same time. The sentence he provides is given in (i). The first *dou* is the focus one, and the second *dou* is the quantification one.
    (i)   Lian tamen dou meiyou dou mai zhe-ben shu.
            Even they all not all buy this-CL book
            'Even they have not all bought this book.'
[21] Under a Sportiche-type analysis, the position of quantificational *dou* would indicate the position through which an object passes (see also Bošković 2004).
[22] Note that *meiyou* is in fact composed of negation *mei* ('not') and aspect marker *you* ('have').

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object are both in the Spec position of the higher AspP in (86a).[23] In the latter case *dou* can be stranded in the higher Spec, AspP when the preposed object moves further, as shown below (cf. Bošković's 2004 proposal that a floating quantifier cannot be stranded in a theta-position).

(87)   Zhe-xie shu, Geurisen dou meiyou kan-wan.
         this-PCL book Grissom all not   read-finish
         'Grissom didn't finish reading these books at all.'

2.4 The BA Construction

So far we have established the following hierarchy:

(88)   Subject - preposed object (internal topic) – *even* focus – *meiyou* (not) - Verb

Now I turn to another preposed element, the one involved in the BA construction. The Chinese BA construction has received much attention in the literature (for an overview of some proposals regarding the BA construction, see Li 2006). The following sentence is a typical BA construction. The object is also preposed in front of the verb, and a lexical element BA precedes it.

(89)   Geruisen ba [$_{NP}$ zhe-ben shu] kan-wan-le   t$_i$.   (SOV)
         Grissom BA   this-CL book read-finish-ASP
         'Grissom has finished reading this book.'

Tsao (1986) has proposed that the preposed object in the BA construction is a topic. Here I will first pay attention to its syntactic position. When compared to the bare object and the *even* focus, the BA NP is lower than both of them. This can be seen from the interaction

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[23] See below for a proposal regarding the movement of the preposed object, where I argue for a mixed movement chain: a base-generated nominal co-indexed with a moved operator. The example (86a) and (86b) are shown here respectively.
    (i)   [$_{TP}$ Grissom [$_{AspP}$ [these books dou]$_i$ not [$_{vP}$ OP$_i$ [$_{vP}$ read-finish-ASP t$_i$]]]]
    (ii)   [$_{TP}$ Grissom [$_{AspP}$ [these books]$_i$ not [$_{vP}$ [OP dou]$_i$ [$_{vP}$ read-finish-ASP t$_i$]]]]

of the elements in question with a dynamic modal. Both the preposed object and the *even* focus must be higher than the dynamic modal, but the BA NP must be lower than it.

(90)   a. Geruisen **lian** zhe-ben shu **dou/ye** ken   kan-wan.
            Grissom even this-CL book all/also be willing to read-finish
            'Grissom is willing to finish reading this book.'
         b. *Geruisen ken   **lian** zhe-ben shu **dou/ye** kan-wan
            Grissom be willing to even this-CL book all/also read-finish

(91)   a. *Geruisen **BA** zhe-ben shu ken   kan-wan.
            Grissom BA this-CL book be willing to read-finish
            'Grissom have to finish reading this book.'
         b. Geruisen ken   **BA** zhe-ben shu kan-wan
            Grissom be willing to BA this-CL book read-finish

I have already shown that the BA marked object is lower than the dynamic modal. In addition, it is also lower than the negation *meiyou*.

(92)   a. Geruisen meiyou BA shu   kan-wan.
            Grissom not   BA book read-finish
            'Grissom didn't finish reading the book.'
         b. *Geruisen BA shu   meiyou kan-wan
            Grissom BA book not   read-finish

If the negation *meiyou* ('not') is located in the head position of a higher AspP as argued in the literature, the above contrast shows that the BA NP is indeed in the vP domain.

The above discussion enriches the structure in (88) by adding BA NP to it, as in (93).

(93)   Subject - preposed object (internal topic) - *even* Focus – *meiyou* (not) –
        BA NP – Verb

Sybesma (1999) and Huang, Li and Li (2009) have proposed that BA is an overt realization of a recursive small v.[24] They argue that when a BA NP appears, there is a recursive vP layer. BA is the small v in the higher vP, and the NP is in the lower Spec of vP. An obligatory overt

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[24] This proposal is mainly supported by the claim that BA does not assign any theta-role (external or internal) but does assign case to the object in a sentence like (98). For the purpose of this chapter, I will adopt this account, but the reader is referred to Chapter 3 where I argue that BA does assign a theta-role and propose a slightly different structure for the BA construction.

V-to-*v* movement to the lower *v*P projection is required with the appearance of BA.[25] If we consider BA to be the boundary marker for *v*P, the sequence in (93) in fact can be divided into two parts: the TP domain and the *v*P domain. In the TP domain we have just seen that we can find both topic and focus. In the *v*P domain there is the BA topic. Note that there is a special context where we can also find an *even* focus under a BA topic. When we use a pair of inalienable nominals like 'book-its last page', the former can be a BA topic, while the latter can be marked by the *even* focus. This is shown in (94).

(94)   Geruisen ba <u>zhe-ben shu</u> lian <u>zuihou yi-ye</u>   dou kan-wan-le.
               Grissom BA this-CL book all last   one-page all read-finish-ASP
               'Grissom even finished reading the last page of this book.'

Assuming that *dou* can also select a VP in this special context, it is then possible to have an *even* focus right above VP. As expected, modals and negation have to be higher than the BA NP. This is shown in (95) and (96) respectively.[26]

(95)   a. Geruisen keyi ba <u>zhe-ben shu</u> lian <u>zuihou yi-ye</u>   dou kan-wan.
               Grissom can BA this-CL book all last   one-page all read-finish
               'Grissom can even finish reading the last page of this book.'
        b. *Geruisen ba <u>zhe-ben shu</u> lian <u>zuihou yi-ye</u>   dou keyi kan-wan.
               Grissom BA this-CL book all last   one-page all can read-finish

(96)   a. Geruisen meiyou ba <u>zhe-ben shu</u> lian <u>zuihou yi-ye</u>   dou kan-wan.
               Grissom not   BA this-CL book all last   one-page all read-finish
               'Grissom did not finish reading even the last page of this book.'
        b. *Geruisen ba <u>zhe-ben shu</u> lian <u>zuihou yi-ye</u>   dou meiyou kan-wan.
               Grissom BA this-CL book all last   one-page all not   read-finish

Hence we can revise (93) again and get the following full paradigm for both the TP and the *v*P domain.

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[25] Since BA does not assign any theta-roles, the subject gets its theta-role from the lower *v*.
[26] The fact that an *even* focus can be lower than a modal in (95a) seems to contradict the example in (90b), where the *even* focus cannot be lower than a modal. Maybe this contradiction has something to do with the BA NP and this special context. It appears that the appearance of the BA NP somehow allows the *even* focus to be lower than the modal.

(97)   [TP Subject - bare object (internal topic) - *even* Focus – [vP [vP BA NP
         (*even* Focus) [VP Verb]]]]

There is independent evidence that the BA NP is indeed a topic. For example, in the literature discussing BA it is often noted that it is possible to have a base-generated NP following BA, which only maintains an aboutness relationship with the postverbal object. This is reminiscent of the Aboutness Topic discussed in the previous section, which also maintains a certain relationship between the topic and the postverbal object. Taking the parallelism with the Aboutness Topic seriously, this can be taken to mean that the BA NP is not moved (or does not have be moved) from a position following the verb. Rather, it can be generated in its surface position and has an aboutness relationship with the real object. One relevant example is given below. Sentence (98) is a classic example found in the literature discussing the BA construction. The aboutness relation is 'location – fire'. Note that if we drop the BA NP part, the sentence is still grammatical.

(98)   Wo (ba   biru)   sheng-le huo.
         I   BA fireplace start-ASP fire
         'I started the fire in the fireplace.'

                                                        (Li and Thompson 1981: 349, (37))

Furthermore, as shown by Bender (2000), the BA NP shares a lot of similarities with the external topic. For example, the BA NP can also only be a G(eneralized)-Specificity NP (see Appendix 1 for relevant examples). We can then conclude that the BA NP is also a kind of an internal topic.

2.5 Where is the Internal Topic?

In this section, I will argue that the preposed object (internal topic) is not in an independent internal topic projection. An interesting property of the TP domain is that it can

be very flexible because of the appearance of modals. I will show that a flexible TP domain provides an argument against the claim that there is an independent internal topic projection, as proposed by Ting (1995) and Paul (2002). I will also show that my proposal that there is no internal TopP, captures nicely the differences between external topics and internal topics. That is, the reason why there can be no multiple adjacent Left Dislocation internal topics, why only internal NP topics are allowed, and why animate internal topics are not possible unless *dui* is present is that internal topics involve no independent topic projections, while the external ones do.

2.5.1 It is not in the *v*P Domain.

If the preposed object without an emphatic marker (a bare one)[27] and the BA NP are both topics, we will expect these two elements to display some similarities. And indeed from the above discussion, we reach the following conclusions.

(99)   The similarities between internal topic and BA topic
         a. They can only be G(eneral)-Specific NPs.[28]
         b. They can both be Aboutness Topic.

Recall that in the analysis that I adopt for the BA construction, the BA NP is located in the Spec of a lower recursive *v*P, but not an independent BA topic projection.[29] The

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[27] I am also excluding a bare preposed object with contrastive focus.

[28] But recall that for the internal topic, NPs with bare numeral determiners (indefinite) are not allowed. There seems to be an interesting asymmetry between the TP/CP and the *v*P domain. With BA NP and in a postverbal object position, indefinite phrases are acceptable. See (i) for an indefinite in object position.

    (i)   Geruisen sha-le   san-ge   ren.
            Grissom kill-ASP three-CL person
            'Grissom killed three people.'

But for Topic or Subject, indefinite phrases are unacceptable. Even for the subject position, the indefinite has to come with a marker *you* ('have'). This is shown in (ii).

    (ii)   *(You) san-ge   ren   lai-le.
            have three-CL person come-ASP
            'Three are three people who came.'

The asymmetry in the acceptance of indefinites goes beyond this dissertation. I will leave this issue for further study.

similarities between the internal topic and the BA topic cast doubt on an analysis that would

posit an independent topic projection for internal topics, given that the BA NP is not located

in a separate topic projection. Based on the similarities between the preposed object and the

BA NP, I will argue against an independent topic projection proposal by Ting (1995) and

Paul (2002) and propose that internal topics are located in the Spec of independently

available functional projections.

There are several analyses of the position of the internal topic in the literature:

(100)   Previous Analyses about the preposed object/internal topic:
  a. Ernst and Wang (1995): VP adjoined position
  b. Gu (1994): Spec AgroP
  c. Zhang (2001): Spec vP position
  d. Shyu (1995): Spec FocusP
  e. J. Li (1998): Spec ModalP and Spec VP
  f. Ting (1995) and Paul (2002): Spec FP (internal topic)

In the previous discussion, examples like (8) and (72) were sufficient to show that the

internal topic is not in the vP domain. Here, I will provide more evidence to support this

claim. That is, a comparison with the BA NP reveals that the internal topic is not in the vP

domain. This can be shown with a contrast involving non-finite clauses.

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[29] The previous analyses of BA treat it as a case marker for the direct object; as a preposition; as a "coverb"; as a functional category heading its own projection (see Cheung 1973, Bender 2000, and Li 2006 for discussion of these approaches). Although Tsao (1986) proposed that the BA NP is a Topic, he mainly discussed the topic properties of the NP, ignoring the syntactic structure of the whole BA NP. To the best of my knowledge, there is no proposal claiming that BA NP is in a topic projection. This probably has lot to do with the verb history and property of BA itself. Huang, Li, and Li (2009) propose that even though BA doesn't have a subject theta-role to assign, it has to assign accusative Case to the NP following it when the NP is an Aboutness topic. BA then should be a functional head. If we were to assume that the NP following BA is in the Spec of a Topic phrase and BA is simply a topic marker preceding the NP, we could not explain this case-assigning property of BA. However, if the Aboutness Topic has inherent case, as I assume in this chapter (since there is no way to assign/check its case in the external/internal topic position), the above argument for BA to be a separate functional head disappears.

In finite clauses, the internal topic NP and BA NP display parallel behavior, namely, they are both clause-bounded. This means they can only move within the clause where they are base-generated/receive the theta-roles. This is shown below.[30]

(101)   Geruisen zhidao [CP Sala diaocha   le   na-jian anzi.]
           Grissom know   Sara investigate ASP that-CL case
           'Grissom knew that Sara investigated that case.'

(102)   a. Geruisen zhidao [CP Sala na-jian anzi diaocha   le.]
           Grissom know   Sara that-CL case investigate ASP
        b. ?*Geruisen na-jian anzi zhidao [CP Sala   diaocha   le.]
            Grissom that-CL case know   Sara investigate ASP

(103)   a. Geruisen zhidao [CP Sala ba na-jian anzi diaocha   le.]
           Grissom know   Sara BA that-CL case investigate ASP
        b. *Geruisen ba na-jian anzi zhidao [CP Sala diaocha   le]
            Grissom BA that-CL case know   Sara investigate ASP

However, the internal topic and the BA NP show different behavior with respect to non-finite clauses. While the internal topic has to be located in the matrix clause, the BA NP has to stay in the embedded clause. This contrast is shown in (105) and (106).

(104)   Geruisen bi   Sala [TP PRO diaocha   [NP na-jian anzi]]
           Grissom force Sara   investigate   that-CL case
           'Grissom forced Sara to investigate that case.'

(105)   a. Geruisen [NP na-jian anzi]$_i$ bi   Sala [TP PRO diaocha t_i]
           Grissom   that-CL case force Sara   investigate
        b. *Geruisen bi   Sala [TP PRO [NP na-jian anzi]$_i$ diaocha t_i]
            Grissom force Sara   that-CL case investigate

(106)   a. *Geruisen ba [NP na-jian anzi]$_i$ bi   Sala [TP PRO diaocha t_i]
           Grissom BA   that-CL case force Sara   investigate
        b. Geruisen bi   Sala [TP PRO ba [NP na-jian anzi]$_i$ diaocha t_i]
           Grissom force Sara   BA   that-CL case investigate

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[30] This clause-boundedness property has been mentioned by Shyu (1995), Ting (1995), J. Li (1998), Paul (2002) among many others. They all interpret this as indicating that the preposed object undergoes A-movement. Other tests include Weak-Cross-Over and anaphor binding (but see the discussion in Section 2.5.3 below where I suggest that the internal topic NP in fact undergoes A'-movement).

Given the above discussion, we then predict that if we have an internal topic and a BA NP appearing at the same time, the preposed object must be in the matrix clause, and the BA NP should be in the embedded clause when the embedded clause is a non-finite one. This prediction is borne out in (107).

(107)   Geruisen [NP zhuo-shang-de shuiguo] bi   Sala [PRO BA [NP pingguo]
         Grissom   table-up-DE   fruit   force Sara   BA   apple
         chi-le
         eat-ASP
         'Among the fruit on the table, Grissom force Sara eat the apples.'

The above contrast indicates that the internal topic is not located in the Spec *v*P position (assuming this is where the BA NP is). Otherwise, it should pattern with the BA NP.

Furthermore, there are other differences showing that the preposed object has to be higher than the BA NP. First, a preposed object must precede a BA NP. In the following examples, both an internal topic and a BA NP are moved NPs. The internal topic can only be higher than the BA NP; it cannot be lower than it. This is shown in (108).

(108)   a. Geruisen [NP zhe-jia tushuguan] bi   Sala [PRO ba [NP na-ben shu]
            Grissom   this-CL library   force Sara   BA   that-CL book
            song le
            give ASP
            'Grissom force Sara to give that book to this library.'
         b. *Geruisen bi   Sala [PRO ba [NP na-ben shu] [NP zhe-jian tushuguan]
            Grissom   force Sara   BA   that-CL book   this-CL library
            song le
            give ASP

Second, with respect to modals and negation, the order among the elements in question has to be 'preposed object > modals/negation > BA NP'. Modals and negation cannot be higher or lower than both the preposed object and BA NP. This is illustrated in (109) (for modals) and (110) (for negation).

(109)　　　a. Geruisen [NP zhuo-shang-de shuiguo] **dei** ba [NP pingguo]
　　　　　　　Grissom　　table-up-DE　fruit　have to　BA　　apple
　　　　　　　chi-wan
　　　　　　　eat-finish
　　　　　　　'Grissom has to finish eating all the apples on the table.'
　　　　　b. *Geruisen **dei** [NP zhuo-shang-de shuiguo] ba [NP pingguo]
　　　　　　　Grissom has to　table-up-DE　fruit　BA　　apple
　　　　　　　chi-wan
　　　　　　　eat-finish
　　　　　c. *Geruisen [NP zhuo-shang-de shuiguo] ba [NP pingguo] **dei**
　　　　　　　Grissom　　table-up-DE　fruit　BA　apple　has to
　　　　　　　chi-wan
　　　　　　　eat-finish

(110)　　　a. Geruisen [NP zuotian-de zuoye] **meiyou** ba [NP cuowu]
　　　　　　　Grissom　　yesterday-DE homework　not　　BA　mistake
　　　　　　　gaizheng
　　　　　　　fix
　　　　　　　'Grissom didn't fix the mistakes in yesterday's homework.'
　　　　　b. *Geruisen **meiyou** [NP zuotian-de zuoye] ba [NP cuowu]
　　　　　　　Grissom　not　　yesterday-DE homework BA　　mistake
　　　　　　　gaizheng
　　　　　　　fix
　　　　　c. *Geruisen [NP zuotian-de zuoye] ba [NP cuowu] **meiyou**
　　　　　　　Grissom　　yesterday-DE homework BA　mistake not
　　　　　　　gaizheng
　　　　　　　fix

Based on the above observations, we can draw the conclusion that the internal topic

(the bare preposed object) is lower than Spec TP (i.e. the subject) but higher than the Spec *v*P

(or *v*P adjoined) position.

2.5.2 A/A'-Position/Movement

A much-mentioned difference between external and internal topics concerns the

A'/A-movement distinction. As is well-known, external topics are in A'-positions. On the

other hand, internal topics have been argued in Shyu (1995), Ting (1995) and J. Li (1998) to

be in an A-position because of locality, lack of weak-cross-over effects, lack of

reconstruction effects and anaphor binding facts. We have already seen examples showing a locality constraint in the previous section. Examples of the lack of weak-cross effects, lack of reconstruction effects, and anaphor binding are given below.[31,32]

(111)   Lack of WCO
Wo mei-ge haizi$_1$ dou bei [youguai ta$_1$ de ren] pai-zou le   t$_1$
I   every-CL child DOU by abduct   him DE person kidnap-away ASP
'(lit.) I was affected by every child (of mine) being kidnapped by the person
who abducted him.'   (Shyu 1995: 107)

(112)   Lack of reconstruction
Zhangsan$_1$, [ziji$_{1/*2}$ de   shi]$_3$, bi   Lisi$_2$ guanyiguan t$_3$
Z.   self DE matter force L.   take.care
'Zhangsan forced Lisi to take care of his own business.'   (Ting 1995: 293)

(113)   Anaphor Binding
Baoyu$_1$, neige yahuan$_2$, bi   taziji$_{1/2}$ de fumu piping-le?
B.   which maid   force him/herself DE parents criticize-ASP
'Which maid did Baoyu forced her parents to criticize?'   (Ting (1995): 292)

The examples from (111) to (113) in principle support an A-movement analysis. However, the locality examples that we have seen in (105) for internal topics do not seem to support an A-movement analysis. Recall that if the embedded clause is a non-finite clause, the preposed object must move to the matrix clause. A sentence like (105a) thus raises the question of how the preposed object can undergo A-movement when it crosses arguments in A-positions

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[31] Note that it has been claimed that reconstruction is possible with A-movement in English. My point here is not to defend the stand that reconstruction only happens with A'-movement in Chinese. Rather, I simply use the contrast in reconstruction effects to show that a different derivation is involved here.

[32] The external topic construction shows opposite results (A'-movement).
(i)   WCO
*Sala$_1$, wo zhidao [taoyan ta$_1$ de ren]   da-shang-le   t$_1$.
Sara I   know   hate   she DE person hit-hurt-ASP
'Sara was hurt by the person who hates her.'
(ii)   Reconstruction
[ziji$_{1/2}$ de shi]$_3$, Zhangsan$_1$ bi   Lisi$_2$ guanyiguan t$_3$
self DE matter Z.   force L.   take.care
'Zhangsan forced Lisi to take care of his own business.'   (Ting 1995: 293)
(iii)   Anaphor Binding
neige yahuan$_2$ Baoyu$_1$, , bi   taziji$_{1/*2}$ de fumu piping-le?
which maid   B.   force him/herself DE parents criticize-ASP
'Which maid did Baoyu forced her parents to criticize?'   (Ting (1995): 292)

(such as the overt object in matrix clause) on the way to its landing site in the matrix clause. Internal topics hence show mixed properties in terms of A- vs. A'-movement. To the best of my knowledge, there is no discussion of this issue in the relevant literature. On the other hand, recall that the BA NP is subject to strict locality conditions: the BA NP cannot move out of the vP, even when the embedded clause is non-finite (cf. (106)). An A-movement analysis is hence uncontroversial for the BA construction. I will now make a suggestion regarding how the mixed A/A' nature of internal topicalization can be captured.

Interestingly, there is another pair of constructions in Chinese which shows a similar distribution. There are two kinds of passive in Chinese: the long passive (with the appearance of Agent) and the short passive (without the appearance of Agent). As noted in Li (1991) and Ting (1995), non-local passivization (in the long passive form) is possible only from within a non-finite clause, but not from within a finite clause. This is shown in (114).

> (114)   a. Zhe-ge shusheng$_1$ bei guanfu   pai   shibingmen$_2$
>   this-CL scholar   BEI local-government make soldiers
>   [$_{TP}$ PRO$_2$ dasi-le   t$_1$]
>   kill-ASP
>   'This scholar was affected by the local-government making soldiers kill [him].'
>   b. *Zhe-ge shusheng$_1$ bei guanfu   renwei [$_{CP}$ [$_{TP}$ shibingmen$_2$
>   this-CL scholar   BEI local-government think   soldiers
>   dasi-le   t$_1$]
>   kill-ASP
>   'This scholar was affected by the local-government thinking that soldiers killed [him].'

<div align="right">(Ting 1998: 331)</div>

In fact, when the embedded clause is a non-finite one, the Theme argument has to be in the matrix clause. If the embedded clause is a finite one, the Theme argument has to stay in the embedded clause.

(115) a. *Guanfu   pai [zhe-ge shusheng₁ bei shibingmen₂
       local-government make this-CL scholar   BEI soldiers
       dasi-le   t₁]
       kill-ASP
       'The local-government made the scholar be killed by the soldiers.'
    b. Guanfu   renwei [cp [TP zhe-ge shusheng₁ bei shibingmen₂
       local-government think   this-CL scholar   BEI soldiers
       dasi-le   t₁]
       kill-ASP
       'The local government thinks that this scholar was killed by the soldiers.'

On the other hand, the so called short passive is only possible within an embedded clause, no

matter whether the clause is finite or non-finite.

(116) a. Nike zhidao Geruisen bei da-le.
       Nick know Grissom BEI hit-ASP
       'Nick knows that Grissom was hit.'
    b. *Geruisen bei zhidao da-le.
       Grissom BEI know hit-ASP

(117) a. Nike rang Geruisen bei da-le.
       Nike let   Grissom BEI hit-ASP
       'Nike let Grissom be hit by someone.'
    b. *Geruisen bei Nike rang da-le.
       Grissom BEI Nick let   hit-ASP

Based on the above contrasts and many others, Huang (1999) and Ting (1998) have proposed

that the long and short passives in fact involve different derivations. The latter involves A-

movement, while the former involves base-generation of the NP preceding BEI plus A'-

movement of an empty operator associated with that NP. Furthermore, in the short passive,

BEI combines with a VP, whereas it combines with a TP in the long passive. These two

derivations are illustrated in (118) and (119) respectively.

(118) a. Geruisen bei da-le.
       Grissom   BEI hit-ASP
       'Grissom was hit.'
    b. [TP Grissom₁ BEI [VP hit-ASP t₁]]

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(119)　　a. Geruisen bei　Sala da-le.
　　　　　Grissom BEI　Sara hit-ASP
　　　　　'Grissom was hit by Sara.'
　　　　b. [$_{TP}$ Grissom$_i$ BEI [$_{TP}$ OP$_i$ [$_{TP}$ Sara [$_{VP}$ hit-ASP t$_i$]]]]

The proposal above nicely explains the asymmetry with passives out of non-finite clauses. In a sentence like (114a), the passivized Theme argument in the long passive can move to the matrix clause crossing other arguments in A-positions because this is an operator A'-movement. However, note that the 'passivized' Theme argument is base-generated in an A-position (Spec, TP) in the long passive, and co-indexed with the moved operator. So the long passive should also show some A-movement/position properties. We then expect that there should be no reconstruction effects but we can still get anaphor binding. This is borne out in (120) and (121) respectively.

(120)　　Reconstruction
　　　　Zhangsan$_1$ zhidao [ziji$_{1/*2}$ de　shi]$_3$　bei Lisi$_2$ guan-le　　t$_3$
　　　　Z.　　　　know　self　DE matter BEI L.　take.care-ASP
　　　　'Zhangsan knows that Lisi took care of his own business.'

(121)　　Anaphor Binding
　　　　neige　yahuan$_2$ bei Baoyu$_1$ bi　　taziji$_{1/2}$　de fumu　piping-le?
　　　　which maid　　BEI B.　force him/herself DE parents criticize-ASP
　　　　'Which maid did Baoyu forced her parents to criticize?'

Although long passive involves operator movement, it is not surprising under this analysis that it also shows A-position properties. For (120), there is no reconstruction effect because there is no movement of the passivized Theme argument (only the operator moves). As for (121), the two potential binders are in A-positions and they are both higher than the bindee. Hence it is possible to A-bind *taziji* 'himself/herself' from both positions.

Note that although expected, no weak-cross-over effect is observed with long passives, as shown in (122). But it is found in external topic constructions, as in (123).

(122)   Sala₁ bei [taoyan ta₁ de ren]   da-shang-le   t₁
         Sara BEI hate   she DE person hit-shang-ASP
         'Sara was hurt by the person who hates her.'

(123)   *Sala₁, wo zhidao [taoyan ta₁ de ren]   da-shang-le   t₁.
          Sara I know   hate   she DE person hit-hurt-ASP
          'Sara was hurt by the person who hates her.'

The above contrast shows that the WCO effect does not occur in a mixed A/A' derivation like the one in the long passive.[33]

I summarize the discussion so far in the following Table 2.1.[34]

Table 2.1 Comparison between Passivization and Topicalization

	Long passive	Short passive	Internal topic	BA NP	External Topic
Classified as	(A')	A	(A')	A	A'
Obeying Locality	(Y)	Y	(Y)	Y	N
Reconstruction	N	N/A	N	N/A	Y
WCO	N	N/A	N	N/A	Y
Anaphor binding	Y	N/A	Y	N/A	N

As mentioned above, the status of the BA construction as a straight A-movement construction, similar to short passive, is uncontroversial. This is illustrated in (124).

(124)   [TP Geruisen [vP ba [vP Sala₁ [VP da-shang-le t₁]]]]].
          Grissom   BA   Sara   hit-hurt-ASP
          'Grissom hurt Sara.'

The classification of the movement involved in internal topic constructions, on the other hand, is less straightforward. Given the parallel behavior of long passive and internal topicalization, at least as far as the properties discussed above are concerned, it is tempting to provide a

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[33] Also the WCO is not a good test for A/A' movement since there is more involved in it than just the A/A' distinction (cf. Lasnik and Stowell 1991). Also Postal (1994) notes that WCO is never found in French with A'-movement, so we cannot conclude that all A'-movement shares this property.

[34] Internal *lian...dou* ('even...all) focus movement behaves in the same way as the internal topic in the relevant respects. This is also one of the reasons why Shyu (1995) categorized the two as having the same derivation. If what we have concluded here is true, then the *lian...dou* ('even...all) focus also involves a base-generated nominal coindexed with an operator which has moved from the base position.

unified analysis of these two constructions. Treating internal topicalization as involving an operator movement chain coindexed with a base-generated nominal can provide us with an account of the mixed A/A'-properties of this construction. The relevant structure is given in (125).

(125)   a. Geruisen [$_{NP}$ zheben shu] kan-wan-le.
             Grissom   this-CL book read-finish-ASP
             'Grissom finished reading this book.
          b. [$_{TP}$ Grissom [$_{XP}$ this book$_i$ [$_{vP}$ OP$_i$ [$_{vP}$ read-finish-ASP t$_i$]]]]

Similar to the operator movement proposed for the BEI construction in (119), in a topic construction, the operator undergoes movement from the object position to the *v*P adjoined position. The actual internal topic is base-generated in a projection above *v*P and below the subject. In the next section, I will argue that this projection (XP in (125)) is a projection in the TP domain. Motivation for this analysis is provided by a contrast between the behavior of internal topics and *even* focus in non-finite clauses. Recall that a preposed object must appear in the matrix clause when the embedded clause is non-finite (example (105a) is repeated here as (126a)). As pointed out by J. Li (1998), an *even* focus on the other hand, can appear in an embedded non-finite clause. This is shown in (126b).

(126)   a. Geruisen [$_{NP}$ na-jian anzi]$_i$ bi   Sala [$_{TP}$ PRO diaocha   t$_i$]
             Grissom   that-CL case force Sara   investigate
             'Grissom forced Sara to investigate that case.'
          b. Geruisen bi   Sala lian   na-jian anzi dou diaocha.
             Grissom force Sara even that-CL case all investigate
             'Grissom forced Sara to investigate even that case.'

The difference between the position of internal topics and *even* focus receives a straightforward account if these nominals target different domains of the clause. As argued in section 2.3, an *even* focus occurs in a focus projection above the *v*P domain, whereas an internal topic occurs in the TP domain (see next section). I propose that the contrast between

internal topics and *even* focus can be explained under the assumption (following Wurmbrand 2001 among many others) that infinitives involve a deficient TP or lack a TP domain altogether. This proposal is supported by the fact that negation and TP-adverbs such as *yesterday* cannot occur within the infinitive, but only in the matrix clause. This is illustrated in (127).[35]

(127) a. Geruisen [NP na-jian anzi] {meiyou} bi   Sala [IP PRO {*meiyou} iaocha]
           Grissom   that-CL case not   force Sara   not   investigate
           'Grissom did not force Sara to investigate that case.'
       b. Geruisen {zuotian}[NP na-jian anzi] bi   Sala [IP PRO{*zuotian} diaocha]
           Grissom yesterday   that-CL case force Sara   yesterday investigate
           'Grissom forced Sara to investigate that case yesterday.'

Assuming that infinitives lack a TP domain and that internal topics can only occur in the TP domain, it then follows that an internal topic can only occur in the matrix clause and not in an infinitive. On the other hand, since *even* focus has its own focus projection, an *even* focus is possible in an infinitive. Recall that the only requirement for the *even* focus is that it be adjacent to a *v*P or VP. I have shown that a *v*P projection is available in infinitives (cf. the BA NP topic in (106)). Hence the grammaticality of example (126b) is expected.

The current proposal also makes the following prediction. If we have three clauses, and the embedded two are non-finite clauses, we predict that the preposed object can only show up in the matrix clause. This prediction is borne out in (128).

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[35] Note that the same holds for the BEI construction in (i) and (ii), which suggests that the complement of BEI is also a simple *v*P rather than a TP. If this is indeed the case, the structure suggested above for internal topicalization would be entirely parallel to that of the BEI construction (in both constructions, the operator is adjoined to *v*P and the base-generated NP is in the TP domain). I leave a detailed examination of this hypothesis for future research.

(i)   Sala {meiyou} bei [vP Geruisen {*meiyou} tou-le   qien].
       Sara not   BEI   Grissom   not   steal-ASP money
       'Sara's money was not stolen by Grissom.'
(ii)   Sala {zuotian} bei [vP Geruisen {*zuotian} da-le].
       Sara yesterday BEI   Grissom   yesterday hit-ASP
       'Sara was bitten by Grissom yesterday.'

(128)   a. Sala [zhe-jian shi]$_i$ OP$_i$ rang Nike [$_{TP}$ PRO bi
           Sara this-CL matter   let Nick   force
           XiaoGe [$_{TP}$ PRO zuo-le   t$_i$]
           Greg   do-ASP
           'Grissom knew that Sara let Nick force Greg to do this matter.'
    b. *Sala rang Nike [$_{TP}$ PRO [zhe-jian shi]$_i$ OP$_i$ bi
           Sara let Nick   this-CL matter   force
           XiaoGe [$_{TP}$ PRO zuo-le t$_i$]
           Greg   do-ASP
    c. *Sala rang Nike [$_{TP}$ PRO bi
           Sara let   Nick   force
           XiaoGe [$_{TP}$ PRO [zhe-jian shi]$_i$ OP$_i$ zuo-le   t$_i$]
           Greg   this-CL matter   do-ASP

In sum, while the BA construction shows properties of A-movement only, internal topicalization has mixed A- and A'-properties. We have seen that the operator movement structure, proposed for long passives, can be applied to internal topicalization to explain its mixed A/A' characteristics. However, to determine whether a full unification of long passive and internal topicalization is possible, a detailed investigation of the BEI construction will be necessary. For the purpose of this dissertation, I will then leave open whether internal topicalization is best analyzed as involving base-generation plus operator movement or direct movement of the topic to a position that has mixed A/A' properties. For the ease of exposition, I will use the straight movement analysis for the rest of the dissertation.

2.5.3 An Independent Internal Topic Projection?

We have seen in section 2.2.3 that the preposed object is a topic. In this section, I will address the question of where exactly the internal topic occurs. Recall that it has been proposed that external topics are located in topic projections. In example (2), repeated here as (129), all three types of topics (Aboutness > Hanging > Left Dislocated) appear at the same time in a single sentence. To explain the co-occurrence of three different topics, Badan and

Del Gobbo (2007) propose that there are three different types of independent topic projections available TP-externally.

(129)   Wo de jiaren,   baba, cong na-jia   yinhang, wo yijing ti/wei ta   jiedao
         I DE family father from that-CL bank   I already for   him   borrow
         hen duo   qian   le.
         very much money ASP
         'As for my family, my father, from that bank, I already borrowed a lot of
         money for him.'

                                                        (Badan and Del Gobbo 2007: (74))

Ting (1995) and Paul (2002) have proposed that there is also an internal topic projection hosting the preposed object. In this section I will provide one piece of evidence against this proposal. I argue that an internal topic is simply located in an independently available functional projection inside the TP domain, not a separate topic projection.

Recall a difference between the external topic and the internal topic discussed above. Paul (2002) claims that multiple internal topics are not possible, as in (130). However, it is not true that multiple internal topics are not allowed; we just cannot have them adjacent to each other. The ungrammatical example (130) becomes grammatical if a modal is inserted in between the two internal topics. The relevant sentences are repeated below (also cf. (132)):

(130)   *Women [NP nan-pai]   [NP yajun]   hai keneng   nadao.
         we   man-volleyball   second place still probably obtain
         'The men's volleyball, perhaps we can still get the second place.'

                                                        (Fan Jiyan 1984: 30-31)

(131)   Women [NP nan-pai]   yinggai [NP yajun]   hai   keneng nadao
         we   man-volleyball possible   second place still probably obtain
         'The men's volleyball, it is possible that perhaps we can still get the second
         place.'

The above examples are problematic for the proposal that there is an internal topic projection. To explain the ungrammaticality of (130), those who support this view would have to say that for some reason (maybe structural), there can only be one topic projection in

the TP-internal position. However, this claim will make a wrong prediction for sentence (131). Apparently, in (131) we need two topic projections, but this is contrary to what needs to be stipulated for sentence (130). And if multiple topic projections are allowed for sentence (131), the ungrammaticality of sentence (130) cannot be explained.

Recall that the relevant generalization is that multiple internal topics are allowed, as long as they are not adjacent. The current proposal that topics are located in independently available functional projections (i.e. Spec, AspP or Spec, ModalP) captures the generalization. The appearance of a modal in (131) brings in an additional projection so another topic can be accommodated.

However, if multiple specifiers could be in principle available, a question arises under the current analysis of internal topics if we can have two different topics in the multiple specifiers of an independently available functional projection. Sentence (132), similar to (130) with an Aboutness Topic and a Left Dislocation Topic, provides evidence that this possibility should be ruled out.

(132)   *Geruisen shuiguo   pingguo   chi-le   san-ge
          Grissom   fruit   apple   eat-ASP   three-CL
          'As for fruit, Grissom ate three apples.'

I will then assume that multiple specifiers are quite generally disallowed in Chinese.[36] What about examples like (54), repeated here as (133), with multiple external topics (the example involves an Aboutness topic and a Left Dislocation topic)?

(133)   [NP Nan-pai],   [NP yajun],   women   hai keneng   nadao.
          man-volleyball   second place we   still probably obtain
          'The men's volleyball, perhaps we can still get the second place.'

The simplest way to analyze such example is in terms of TopP recursion.[37] The unacceptability of (130), with multiple internal topics, then follows immediately, given that

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[36] They might only be allowed if one of them is a theta position.

TopP, hence TopP recursion, is not available TP-internally. As for example (131), though there is no TopP recursion available TP-internally, we do find enough landing sites for multiple topics because the extra modal provides an additional Spec to host the second preposed object. Hence the grammaticality of this sentence is also expected.

To conclude, the fact that internal topics differ from external topics with respect to the possibility of multiple occurrences easily follows under my analysis since the former are not located in Spec, TopicP, hence cannot employ TopicP recursion.

2.5.4 Preposed Object and Modals

After arguing against the existence of an internal topic projection, I turn now to certain new data involving modals. The new data suggest that the order among different internal topics is in fact a result of interaction of the different properties of the topics involved.

When discussing the interaction between modals and preposed objects, researchers usually have only one modal in the sentence (e.g. Ernst and Wang 1995 and J. Li 1998), and they do not distinguish the type of modals. However, within the Split-INFL framework, the interaction between the preposed object and modals should be further distinguished and investigated. Adopting a Split-INFL framework, Hsu (2005), following Wurmbrand (2001), proposes a layered INFL structure for Mandarin Chinese to capture the structural distinction among different modals. The basic modal distribution is shown in (134).[38]

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[37] Multiple topics of the same type (like multiple Left Dislocation topics) could be analyzed without TopP recursion, with one topic adjoined to another along the lines of Rudin's (1988) analysis of Multiple *wh*-fronting. If the option is adopted, it needs to be restricted to the CP domain.

[38] Here I modified Hsu's (2005) tree in two respects: I omit the cleft focus position which is not relevant for my discussion and I add a second Aspect projection. In Hsu (2005), there is only one Asp projection, and that Asp projection and the dynamic modal projection are the same one since she shows that Asp *meiyou* ('not') or *zai* (progress aspect marker) and the Dynamic modal are in complementary distribution. However, as explained in

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(134)

```
                    TP
                   /\
              Spec   EpistemicModP
                    /\
                Spec   Ep'
                      /\
              Necessity  EpistemicModP
                         /\
                    Spec   Ep'
                          /\
                 Possibility  DeonticModP
                             /\
                        Spec   De'
                              /\
                     Deontic   DynamicModP/Asp1P
                              /\
                        Spec   Dy' / Asp1'
                             /\
                  Dynamic/Asp1   Asp2P
                  (meiyou, zai)  /\
                            Spec   Asp2'
                                  /\
                              Asp2   vP
                           (le, zhe, zuo)  /\
                                       v    VP
```
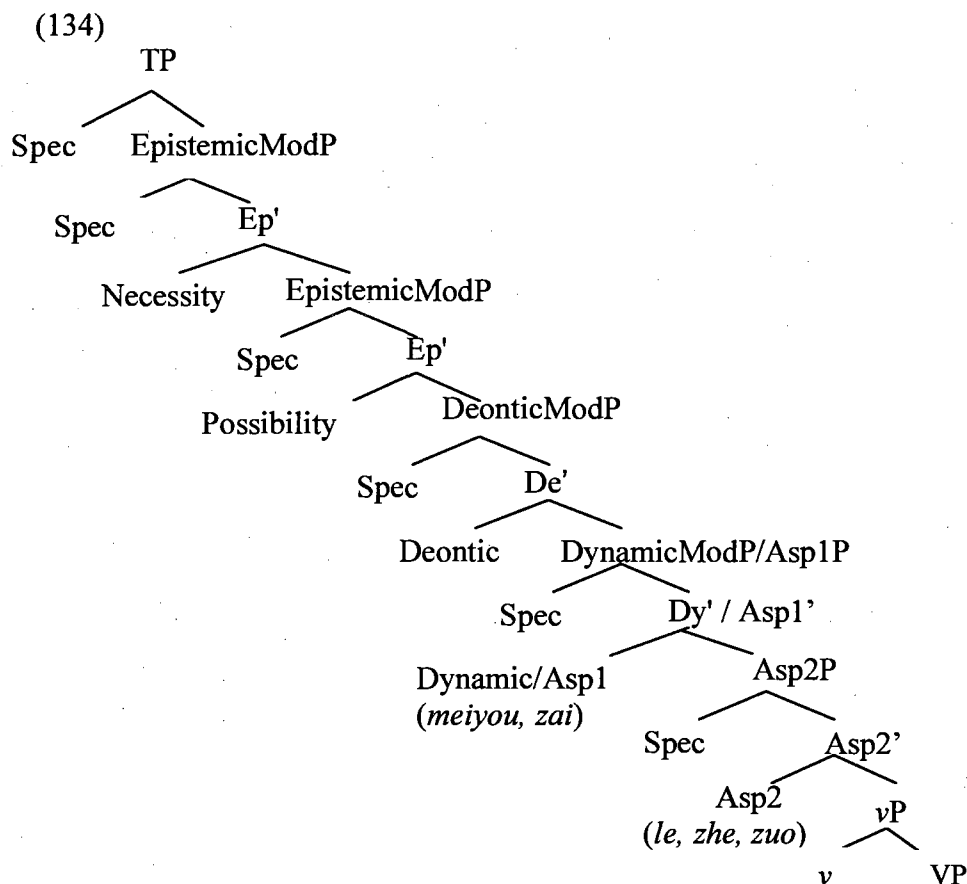
Returning to preposed objects, when there is only one modal, no matter which modal

we choose to have in the sentence, the preposed object must always appear higher than the

modal. This is shown in (135), (136), and (137).

(135)   Epistemic Modal
        a. Geruisen [NP zhe-ben shu] yinggai   mai
          Grissom   this-CL book possible buy
          'It's is possible for Grissom to buy this book.'
        b. *?Geruisen yinggai   [NP zhe-ben shu]   mai
          Grissom possible   this-CL book buy

---

the discussion of *dou* above, having two different Aspect projections (cf. Huang, Li and Li 2009) in the INFL domain in Chinese is more appropriate since it is possible to have both a dynamic modal and an aspect marker *le* or *zhe* appearing together, as shown below.
   (i)   Geruisen gan   kan-zhe Sala-de yianjing shuhua.
           Grissom dare.to look-ASP Sara-DE eye   speak
           'Grissom dares to look at Sara's eyes while he is talking.'
Therefore the dynamic modal competes with the higher Asp, but not the lower one. And the preposed object should be located in the Spec of the higher AspP, not the lower one (cf. (8), which shows that the preposed object must be higher than *meiyou*).

(136)   Deontic Modal
         a. Geruisen [NP zhe-ben shu] yao   mai
            Grissom   this-CL book have.to buy
            'Grissom have to buy this book.'
         b. *?Geruisen yao   [NP zhe-ben shu] mai
             Grissom have.to   this-CL book buy

(137)   Dynamic Modal
         a. Geruisen [NP zhe-ben shu] nenggou   mai
            Grissom   this-CL book be.able.to buy
            'Grissom is able to buy this book.'
         b. *Geruisen nenggou [NP zhe-ben shu]   mai
             Grissom be.able.to   this-CL book   buy

Inspired by Hsu's (2005) and Ting's (2006) observation regarding the particle *suo*

('SUO') and multiple modals, I will now check the results of interaction between a preposed

object and multiple modals. When a preposed object intervenes between modals, the results

are quite interesting. When the preposed object is higher than the modals, the sentence is

fully grammatical. The object can never be lower than the lowest modal no matter which one

it is. As for intermediate positions, the examples are degraded, though not as bad as examples

where the topic is in the lowest position. Examples are given below:

(138)   Epistemic Modal + Deontic Modal
         a. Geruisen [NP zhe-ben shu] yinggai   yao   mai
            Grissom   this-CL book possible have.to buy
            'It is possible that Grissom has to buy this book.'
         b. ??Geruisen yinggai   [NP zhe-ben shu] yao   mai
             Grissom possible   this-CL book have.to buy
         c. *Geruisen yinggai yao   [NP zhe-ben shu] mai
             Grissom possible have.to   this-CL book buy

(139)   Deontic Modal + Dynamic Modal
         a. Geruisen [NP zheben shu] yao   nenggou   mai
            Grissom   this-CL book have.to be.able.to buy
            'Grissom has to be able to buy this book.'
         b. ??Geruisen yao   [NP zhe-ben shu] nenggou   mai
             Grissom have.to   this-CL book be.able.to buy
         c. *Geruisen yao   nenggou [NP zhe-ben shu] mai
             Grissom have to be.bale.to   this-CL book buy

(140)   Epistemic Modal + Dynamic Modal
          a. Geruisen [$_{NP}$ zhe-ben shu] yinggai   nenggou   mai
             Grissom   this-CL book possible   be.able.to   buy
             'It is possible that Grissom is able to buy this book.'
          b. ??Geruisen yinggai   [$_{NP}$ zhe-ben shu] nenggou   mai
             Grissom   possible   this-CL book be.able.to   buy

          c. *Geruisen yinggai   nenggou [$_{NP}$ zhe-ben shu]   mai
             Grissom   possible be.bale.to   this-CL book buy

The results are summarized below in (141) (PO = preposed object):[39]

(141)   a. Subject...PO...dynamic Modal...*PO...VP
          b. Subject...PO...epistemic/deontic...*?PO...VP
          c. Subject...PO...Modal...??PO...Modal...*PO...VP.

In both patterns, the position which is the highest is the best one. A position between

two modals is not so good. But the position which is the lowest is absolutely unacceptable.

2.5.5 The Generalization

Given the discussion above, my new generalization regarding the location of the

preposed object is shown in (142).

(142)   The location of the preposed object
          The preposed object has to be located in the specifier of a functional
          projection within the Split TP and it has to be located as high as possible.[40]

In a sentence without any modal projections like (143), the highest specifier is the

Spec of AspP, and I propose that the topic is in that specifier.

(143)   a. Geruisen [$_{NP}$ zhe-ben shu] kan-wan-le.
             Grissom   this-CL book read-finish-ASP
             'Grissom finished reading this book.'
          b. [Grissom [$_{AspP}$ this book$_i$ [$_{vP}$ read-finish-ASP t$_i$]]]

---

[39] Note that there is also speaker variation regarding the acceptance of the preposed object in between modals. Some speakers only accept sentences with the preposed object located in the position preceding all the modals (The same applies to (148) as well).
[40] I am disregarding here the surface subject position, which precedes internal topics.

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That the Spec of the higher AspP is the position where the preposed object is located in such constructions is also supported by sentence (8), where the preposed object is higher than negation *meiyou*, which is located in the higher AspP head. On the other hand, if there is a dynamic modal in the sentence, the preposed object has to be base-generated in the Spec of this modal projection. If the modal is a deontic or epistemic modal, the topic has to be base-generated in the Spec of this modal projection since they are higher than the Spec of AspP. If there is more than one modal, no matter what the combination is, the preposed object has to be in the Spec of the highest modal projection.

Notice that the ungrammatical (130) and grammatical (131) can be captured under the current generalization. The sentences are repeated below as (144) and (145).

(144)   *Women [NP nan-pai]   [NP yajun]   hai keneng   nadao.
         we   man-volleyball   second place still probably obtain
         'The men's volleyball, perhaps we can still get the second place.'
                                                                    (Fan Jiyan 1984: 30-31)

(145)   Women [NP nan-pai]   yinggai [NP yajun]   hai   keneng nadao.
         we   man-volleyball possible   second place still probably obtain
         'The men's volleyball, it is possible that perhaps we can still get the second place.'

In sentence (144), there is a modal 'probably'. The Spec of this modal projection is the place where the preposed object should be located since it is the highest one. But now the problem is that there are two topics competing for the only available Spec position, given that multiple Specs are not available. The sentence is thus ungrammatical. On the other hand, if we insert another modal as in sentence (145), there are two Spec positions available for the two topics.[41] The highest position is taken by the base-generated Aboutness Topic 'men's

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[41] Notice that, as with external topics, the order 'Aboutness topic > left dislocation' must be preserved even in TP internal positions. If we reverse the order, the sentence is ungrammatical, as shown in (i). I will argue below that this order is determined by relativized minimality.

volleyball', hence the preposed object 'second place' can only target the second highest position. But this is still allowed under the current proposal. Recall that the object has to be located as high as possible. The preposed object 'second place' is located in the highest possible Spec. (The Spec of the first modal is not an option for this preposed object since it is already filled).

Furthermore, compared to (145), example (146a) is degraded. (The fully grammatical sentence is the one in (146b).) This contrast is also captured under the current approach. Though the Left Dislocation Topic 'second place' is in the second Spec in both (145) and (146a), it is not located 'as high as possible' in (146a). There is one more Spec position available in the example which is higher than the current landing site of the topic. However, in (145) the Left Dislocation Topic is located 'as high as possible'. The second Spec in this sentence is in fact the highest available position for the Left Dislocation Topic. Hence, the contrast between (145) and (146a) is explained.

(146)   a. ??Women yinggai [NP yajun]   hai keneng nadao.
              we   possible   second place still probably obtain
          'It is possible that perhaps we can still get the second place.'
          b. Women [NP yajun]   yinggai   hai keneng nadao.
              we   second place possible still probably obtain

The current generalization thus captures the interactions that we find between the preposed object and modals, illustrated in (141).

An interesting prediction can be made here. If all three different types of modal appear in the TP-internal position at the same time, the prediction is that the lower the preposed object is, the worse the sentence will be. And this is attested in the following sentences, summarized in (148).

(i)   *Women [NP yajun]   yinggai [NP nan-pai]   hai keneng nadao.
          we   second place possible   man-volleyball still probably obtain

(147)   Epistemic Modal + Deontic Modal + Dynamic Modal
         a. Geruisen [NP zhe-ben shu] yinggai   yao   nenggou mai
            Grissom   this-CL book possible have.to be.bale.to buy
            'It is possible that Grissom has to be able to buy this book.'
         b. ??Geruisen yinggai   [NP zhe-ben shu] yao   nenggou mai
               Grissom possible   this-CL book have.to be.able.to buy
         c. ???Geruisen yinggai   yao   [NP zhe-ben shu] nenggou mai
               Grissom possible   have.to   this-CL book be.able.to buy
         d. *Geruisen yinggai yao   nenggou [NP zhe-ben shu] mai
            Grissom possible have.to be.bale.to   this-CL book buy

(148)   Subject ...PO...EM...??PO...DeM...???PO... DyM...*PO...VP

Compare (147b) to (147c). Since the preposed object can be located in the Spec of the

second modal, placing it in the Spec of the third modal further degrades the sentence.[42]

Let us now examining the status of (142) as well as the order among topics more

closely. The "as-high-as possible" tendency and the order among topics can be captured by

the following constraints, which could be considered to be information structure constraints.

(149)   a. Left Dislocation Topic has to stay at the periphery of a particular domain as
            high as possible
         b. Aboutness Topic > Hanging Topic > Left Dislocation

(149) is intended to capture the general property of topics that they tend to stay in the left

periphery within a particular domain. This seems to also be the case with the internal topic in

Chinese. (149b) concerns the relative orders among different types of topics. Part of the

constraint (149b) (Hanging Topic > Left Dislocation) is also observed in Italian by Benincà

and Poletto (2004).

The two constraints in (149) can be used to explain the grammatical sentence in (145)

and the ungrammatical sentence in footnote 41, repeated here as (150).

(150)   *Women [NP yajun]   yinggai [NP nan-pai]   hai   keneng   nadao.
          we   second place possible   man-volleyball still   probably obtain

---

[42] A question may arise why (141c) on the ?? PO option is better than (141a) (or (141b)) since in both
environments the preposed object is in the second highest Spec. At this point I do not have an explanation for
this.

Recall that in these two sentences, the order between the Aboutness Topic and the Left Dislocation Topic must be the former preceding the later, not the other way around. Though the constraint (149a) requires Left Dislocation Topic to stay as high as possible, constraint (149b) overrides it since it is an absolute constraint (see the discussion below). The Aboutness Topic then must be placed higher than the Left Dislocation Topic. Strictly speaking, (149a) is actually not violated in (145). The appearance of the Aboutness Topic makes it impossible for the Left Dislocation Topic to move to the first Spec position. Thus staying in the second Spec becomes an option. Since (149a) is not violated in the case in question ((149a) says as high as possible, and the highest position is not possible here, so the constraint is not violated), we then actually do not need to assume OT style constraint ranking.

One may raise a question what (149) could follow from. I suggest that its effects may be deduced from semantics and syntax. As pointed out by Mamoru Saito (p.c.), topics may have to have maximal propositional scope. That is, a topic (any type) will have to precede everything in the comment sentence. Hence, (149a) could be derived from the scope properties of topics. But even among topics, we still have an order hierarchy like the one in (149b). The position of Left Dislocation Topic can be derived from constraints on movement. For Left Dislocation Topics to be higher than the other two base-generated topics would require it to move across another topic, which would violate relativized minimality.[43] Hence Left Dislocation topic should stay lower than the other two base-generated topics. As for the order between Aboutness Topic and Hanging Topic, recall that Hanging Topic still has to bind a co-indexed pronoun in the comment sentence. Aboutness Topic, which is also base-

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[43] Note that multiple Left Dislocation topics may not involve a 'crossing' movement. See footnote 37.

generated outside the comment sentence, may count as a potential binder, causing an intervention effect if it follows a Hanging Topic. The prohibition on multiple Hanging Topics seems to partially support the above explanation based on the intervention effect.

Under the approach outlined above, it may also not be necessary to posit different topic projections for different types of the external topics. We can assume that the external topic projection is simply recursive, but the label is not specified for a particular topic type. The ordering among the external topics can be captured as discussed above.

2.6 The BA NP, Preposed Object and Object Shift

Now I turn to the second puzzling property of internal topics: why we can only have NPs as an internal topic and a BA Topic. Recall that in addition to definite NPs, TP-external topics can be VPs, PPs, TPs or CPs. But apart from NPs, other syntactic categories are not available for TP-internal topics. Again, I argue that this difference follows from the current proposal: while external topics involve independent topic projections, internal topics do not. If we assume that an independent topic projection can host any constituent, the asymmetry between external topics and internal topics then follows.

The category difference between internal and external topics in Chinese is reminiscent of the difference between verb second movement and Object Shift in Germanic. Whereas verb second movement (i.e., movement to Spec, CP) can affect basically any category, Object Shift in Scandinavian languages, especially in Icelandic (cf. the overview of Object Shift by Thráinsson 2001 and Vikner 2006) is also restricted to NPs. I therefore suggest that the movement of an NP TP-internally in Chinese is essentially similar to Object

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Shift in Icelandic. I start the discussion by comparing the BA NP construction to Object Shift in Icelandic. This is shown in Table 2.1.

Table 2.2 Comparison between Object Shift and BA NP

	Object Shift	BA NP
(a) Landing Site	AgroP/TP[44]	Recursive vP
(b) Dependent on Verb movement	yes	no
(c) May cross an indirect object (IO)	no	yes
(d) A-movement	yes[45]	yes
(e) Moves pronominal NPs	yes	yes
(f) Moves PPs	no	no
(g) May cross a clause boundary	no	no
(h) ordering w.r.t. adverbials	preceding all (medial) sentential adverbs and negation	following all (medial) sentential adverbs and negation

From Table 2.2 we can see that there are a lot of similarities between Object Shift and BA NP. Two things to note here: First, regarding (c), the difference may be simply due to the different structure of double object constructions in Chinese. For example, even for external topic or focus, moving the direct object across the indirect object, or the other way around, does not result in grammaticality. Hence I will ignore this difference. Second, no verb movement seems to be required in Chinese when the object moves.[46] Both Icelandic and

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[44] As in the literature on object preposing in Chinese, there are also various proposals for the landing site of the shifted object: i.e. VP-adjoined position (cf. Holmberg (1986)), Spec AgroP (cf. Déprez (1989), Johnson (1991), Chomsky (1993), Bobaljik (1995) and Collins and Thráinsson (1996)), higher than AgroP (cf. Holmberg and Platzack 1995, Vikner 1995 and Bošković 1997 and 2007a), inner Spec TP (Hiraiwa 2001), or Spec of an internal TopicP (cf. Jayaseelan (2001) or Josefsson (2001)).

[45] As pointed out by Thráinsson (2001), the general tests used to distinguish A'-/A- movement, such as licensing parasitic gaps, binding, WCO, do not provide very clear and straightforward arguments about the nature of Object Shift. But since Object Shift is strongly clause-bounded, I will simply assume that it is derived by A-movement.

[46] It is probably true that there is no overt V-to-I movement in Chinese (cf. Tsai 1994) because there are no examples where the verb crosses a negation, adverb and a preposed object. But the status of overt V-to-v movement is not clear and almost impossible to test. Despite this, recently there have been several proposals adopting this assumption. The SVO-Duration/Frequency Phrase construction is one relevant case. If one

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Chinese are VO languages. But after Object Shift, the word order in Icelandic is still VO, but it is OV in Chinese. Hence this really is a difference between Object Shift and the BA NP construction. I will come back to this difference after comparing the preposed object to Object Shift.

Next we compare the preposed object to Object Shift and the BA NP. This is shown in Table 2.3. For examples illustrating each property, see Appendix II.

Table 2.3 Comparisons between Object Shift, BA NP and Preposed Object

	Object Shift	BA NP	Preposed Object
(a) Landing site	AgroP/TP	Recursive *v*P	TP domain
(b) Dependent on Verb movement	yes	no	no
(c) May cross a indirect object	no	yes	yes
(d) A-movement	yes	yes	(no)
(e) Move pronominal NPs	yes	yes	yes (with a preposition-like element)
(f) Move PPs	no	no	no
(g) May cross a clause boundary	no	no	no (unless it's a non-finite clause)
(h) ordering w.r.t. adverbials	preceding all (medial) sentential adverbs and negation	following all (medial) sentential adverbs and negation	following all (medial) sentential adverbs but preceding negation

As one can see, preposed objects are also similar to Object Shift, though there seem to be more differences here. I have shown that object preposing involves a mixed A-position/A'-

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assumes that the Duration/Frequency Phrase adjoins to V' position, the verb then has to move in order to derive the correct word order as in (i) (cf. Soh 1998 and Huang, Li and Li 2009).

    (i)   Geruisen qu-le   san-ci   NouYue.
                Grissom go-ASP three-time New York
                'Grissom went to New York for three times.'

But even if V-to-*v* movement exists, it is not like verb movement in Icelandic, which should give us the VO order, with the verb raising above *v*.

movement derivation. Hence the derivation can take place across a non-finite clause boundary. Like the BA NP, the bare preposed nominal (DO) can also move across an IO in a double object construction. There is also no verb movement to T because we still get the VO order after object preposing.

At first glance, it seems that Object Shift is closer to the BA construction than internal topicalization. Shyu (2001) argues that the preposed object cannot be related to Object Shift in Icelandic. She has two major objections. First, she argues that the preposed object in Chinese is derived by focus movement (following Shyu 1995). Hence it is not 'optional'. Shyu claims that Icelandic Object Shift is optional and case-related (e.g. Thráinsson 1993). Second, she assumes that there is no AgrP (AgrS and AgrO) projected in Chinese and there is no V-to-I/T movement. Therefore object preposing in Chinese cannot be associated with Object Shift in Icelandic.

However, I argue that the above points are not strong enough to argue against an analogy between object preposing (or the BA construction) in Chinese and Object Shift in Icelandic. First, Object Shift in Icelandic is not really 'optional'. If the movement were optional, we should not get 'any' difference between non-shifted and shifted orders. However, it has been reported that shifted object elements in Icelandic must receive a topic interpretation (cf. Bobaljik 1995 and Diesing 1996). Furthermore, I have argued above that the preposed object does not undergo focus movement, but topic movement. If this is the case, we not only have one more similarity between the preposed object and Object Shift (e.g. Topic interpretation), but can also reject one of Shyu's objections.

Second, it is true that in Icelandic, the object may move only if verb movement has taken place (i.e. Holmberg's generalization), but the object can also stay in-situ (though with a different interpretation).

(151)   a. Jón las   ekki   bókina.
          b. Jón las   bókina   ekki.
             J.   read the.book [VP not   [VP the.book]]   (Bobaljik 1994: 13)

Hence it seems that verb movement is only a <u>precondition</u> for objects to move. Bobaljik (1994, 2002) proposes a morphophonological account and argues that Object Shift does not syntactically interact with verb movement at all. The object can only move when there is verb movement because of an adjacency requirement between INFL and the verb which holds at PF. In Icelandic, INFL is an affix, and it needs to be combined with a stem (i.e. the verb) under adjacency: nothing can intervene between the INFL and the verb. If the verb does not move, but the object moves, the adjacency requirement is violated, resulting in grammaticality. On the other hand, once the verb moves to INFL via head movement, nothing goes wrong with object movement. This configuration is fine since the adjacency requirement is satisfied. The above two exampls are shown in (152).

(152)

```
              TP
            /    \
      Subject     I'
         |       /  \
         |    INFL    vP
         |     |     /  \
         | shifted object  VP
         |     |        /  \
         |     |       |    VP
         |     |       |   /  \
         |     |       |  V    object
         |     |       |  |      |
```

Jón [+tense]		ekki	las	bókina	(√Adjacency)
Jón las	bókina ekki				(√Adjacency)
*Jón [+tense]	bókina ekki	las			(*Adjacency)
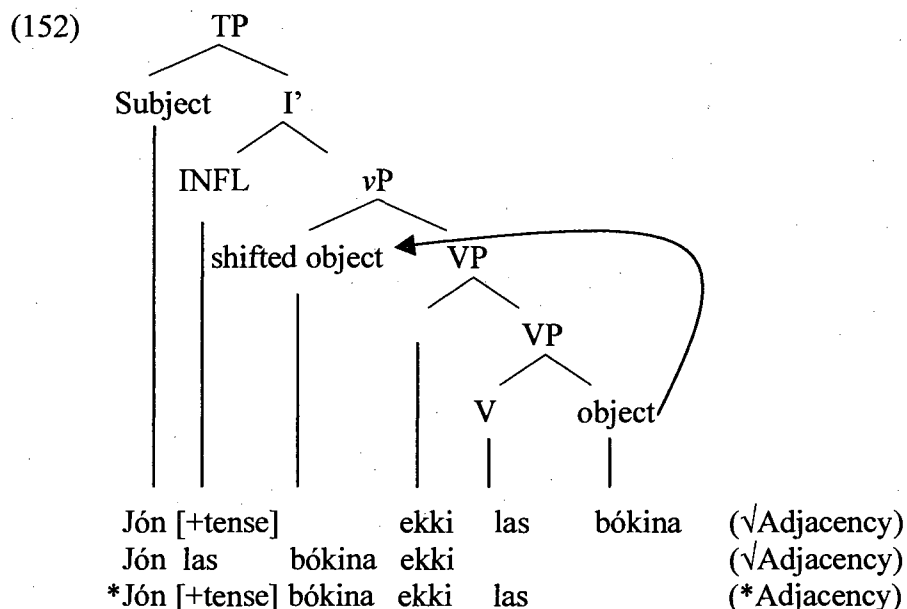
This proposal nicely predicts that languages like Chinese may allow Object Shift independent of verb movement. Chinese is a language with no verbal inflection. Hence the adjacency requirement should not be at work in Chinese. If an object moves for an independent reason, even without verb movement, we would expect to see a grammatical sentence. And this is exactly what we find in Chinese for the BA construction and internal topicalization. To sum up, the object preposing cases in Chinese are consistent with Bobaljik's morphophonological account for Object Shift in Icelandic.

Furthermore, because of the topic interpretation, we may also conclude that Object Shift involves internal topicalization. This then raises the question whether Object Shift is more like internal topicalization or the BA construction. Note that there are different proposals regarding the landing site of Object Shift (i.e. AgroP or higher). However, since the BA NP is in vP and the internal topic moves to the TP domain, we in fact can accommodate both proposals. Therefore, if the shifted object lands in Spec, AgroP (cf. Déprez 1989, Johnson 1991, Chomsky 1993, Bobaljik 1995, and Collins and Thráinsson 1996), it is like a BA construction. If it goes higher (cf. Holmberg and Platzack 1995, Vikner 1995, Hiraiwa 2001 and Bošković 2007a), it is like object preposing. Given that Object Shift can precede sentential adverbs, it may be more like object preposing.

Last, it is well-known that in Icelandic only NPs can be shifted, which is also the case in Chinese. This may support the current proposal that there is no internal topic projection for the preposed object if we assume that only independent Topic projections can host categories other than NPs. Internal *even* focus can take any syntactic category, just like the external topic. The generalization we are then dealing with here, under the current analysis, is that a constituent of any category can be topicalized/focalized if there is a dedicated Topic/Focus

projection. It then follows that external topics and *even* focus can support constituents other than NPs.

2.7 Differential Object Marking

I have shown above that external and internal topics share many similarities. However, there are also some interesting differences between the two. Recall that Paul (2002) has shown that it is impossible to have a Proper Name of a person or a pronoun as an internal topic.[47],[48] In this section I will argue that this third difference is exactly due to the unavailability of an independent topic projection TP-internally, which is also one of the main claims of this chapter.

It is a mystery why Personal Proper Names and Pronouns cannot be internal topics since they are perfectly fine as external topics. As pointed out in a footnote in Paul (2002), in a sequence "NP-NP-VP" (where both NPs are animate), the interpretation "Topic-Subject-VP" is the only possibility. Thus, in the following sentence, only the first interpretation is possible, not the second one. That is, the sentence (153) cannot mean that 'my sister knows him', with 'my sister' as the subject, and the pronoun 'him' as a preposed object.

(153)   Wo-de meimei ta renshi
           I   DE sister he know
           'He knows my sister.'
           '*My sister knows him.'

I will account for these facts by resorting to a proposal that a nominal with a [+person] feature (see below) cannot be an internal topic, unless accompanied by a Differential Object

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[47] Icelandic Object Shift differs in this respect. The analysis of the Chinese pattern below, however, leaves room for accommodating Icelandic.

[48] There is some speaker variation regarding other animate nominals, such as *zhe-ge haizi* ('this child'). The proposed analysis can easily be modified to capture speaker variation regarding NPs like 'this child' (see footnote 51). I will focus here on uncontroversial nominals such as personal Proper Names and pronouns, which cannot be internal topics.

Marker (DOM). As discussed in Bossong (1985) and Aissen (2003), common ingredients in Differential Object Marking are Animacy and/or Specificity. I will show that these features also play a crucial role for Chinese DOMs. Specifically, I suggest that Differential Object Marking can be accounted for if it is assumed that animate nominals are specified as [+person].

I basically follow a syntactic proposal regarding DOM in Spanish made by Rodríguez-Mondoñedo (2007).[49] In Spanish there is a very interesting paradigm regarding object marking. Roughly, when the subject is a [+specific, +animate] noun, it has to be marked by a preposition-like element *a*, but not in other cases.[50]

(154) a. Grissom ama (*a) le libros.
          Grissom likes   the books
          'Grissom likes the books.'
       b. Grissom ama *(a) Sara
          Grissom likes   Sara.
          'Grissom likes Sara.'

To explain the above contrast, Rodríguez-Mondoñedo (2007) proposes that *v* is deficient in Spanish. It only has a [+number] feature, but not a [+person] feature. In a sentence like (154), the object, which does not have a [+person] feature, can check all its features when it moves to Spec *v*P. But if the object has a [+person] feature, this derivation cannot converge since *v* cannot case-value the object NP because the NP is richer in phi-

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[49] Another possible explanation is to relate the phenomenon under consideration to the word order freezing effect (cf. Lee 2001 and Zeevat 2006). That is, under some circumstances, the interpretation of some constituents is fixed when there is no distinguishing morphological marking on these constituents. Example (153) may illustrate this point. Note that here is no marker on the two nominals, and the only reading is 'Topic-Subject', not 'Subject-Topic'. However, the word order freezing effect can generally be overcome by using contrast and coordination, as in (i) below. This is not possible in Chinese.
  (i)   *Geruisen zhe-jian shi   hen guanxin, erqie Geruisen Sala ye   hen guanxin.
            Grissom this-CL matter very care   and Grissom Sara also very care
            'Intended meaning: Grissom cares about this matter very much, and Grissom cares about Sara very much as well.'
Hence this seems to show that we are not dealing here with a word order freezing effect.
[50] See Rodríguez-Mondoñedo (2007) for some exceptions and an account of these exceptions.

features than v, assuming 'maximize matching effects' (see McGinnis 1998, Chomsky 2001, Béjar 2003, Rodríguez-Mondoñedo 2006, Bošković 2007b among others). Rodríguez-Mondoñedo argues that the preposition a is responsible for feature-checking of elements with [+person] feature (see Rodríguez-Mondoñedo 2007 for details of the analysis).

Notice that the introduction of a is a last resort operation (cf. (154a)). Thus, we do not find a on [+person] subjects, since the head of TP, which has a [+person] feature, is able to undergo feature checking with [+person] elements.

(155)   *A Grissom ama le libros.
          Grissom likes the book
          'Grissom likes the books.'

The relevance of the [+person] feature of the object in Spanish is reminiscent of the contrast between internal and external topics in Chinese discussed above. Recall that Rodríguez-Mondoñedo (2007) proposes that [+person] nominals are richer in phi-features than v in Spanish, which lacks the [+person] feature, hence v cannot case-value [+person] nominals. (This is ultimately responsible for the presence of a). Parallel to v in Spanish which can only do case-licensing if the nominal is not featurally richer than v, I assume that the functional projections (F) that host the TP internal topic also lack the [+person] feature. Furthermore, pursuing the above line of reasoning, F can license only the case/operator-type feature of nominals which are not phi-richer than F. As a result, when we topicalize a Proper Name or a pronoun, F cannot license the case/operator feature involved in TP internal topicalization. Since the topicalized nominal has a [+person] feature which is not available at F, this derivation cannot converge.[51],[52] This is shown in (156).

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[51] Notice that Rodríguez-Mondoñedo (2007) claims that what counts as a [+person] feature varies across languages to some extent. In fact, Spanish and Chinese do not seem to be completely identical in this respect (Personal Proper Names and pronouns bear the feature in question in Chinese, though there may be some speaker variation in this respect, see footnote 48).

(156)

TP
  Subject   FP
[+person] NP$_i$ F'
                 F   vP
                   Spec   VP
                        V   NP
                              t$_i$
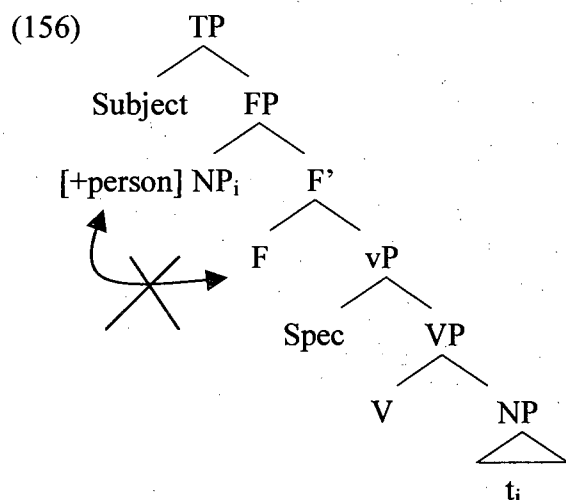
In contrast to internal topics, external topics do allow [+person] nominals like Proper

Names and pronouns. I suggest that this is so because the head of a TopicP is not phi-feature

deficient. It can have a [+person] feature, so the above problem that arose with internal

topicalization doesn't arise here.

Notice also that, just as in Spanish, (157) can be saved by introducing a preposition-

like element *dui* ('to').

(157)   Geruisen *(dui) Sala hen   guanxin.
         Grissom   to   Sara very care
         'Grissom cares about Sara very much'

I propose that this preposition-like element *dui* ('to') is a kind of a differential object marker

in Chinese. Even if one considers the constituent [to Sara] a PP in (157), it does not behave

like a regular PP. Recall that this 'PP' [to Sara] can be higher than negation, but a regular PP

cannot (cf. (44) and (46)). So our previous conclusion that a regular PP indeed cannot be

internally topicalized seems to be on the right track. For (157), the 'PP' can be internally

topicalized because we are in fact topicalizing a NP, the differential object marker being

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[52] Recall that some speakers (cf. Jiang 1991 and Li 1998) seem to be able to accept [+person] internal topics, as noted in footnote 12. For those speakers, I assume that their F can check [+person] feature.

added due to the lack of a [+person] feature in the TP domain. Hence what is internal-topicalized here is an 'NP' constituent with a differential object marker, rather than a real PP.

Recall that the introduction of the differential object marker *a* in Spanish is only a last resort operation for [+person] nominals in Spanish. Hence we do not expect to see *a* with [-person] nominals.[53] But in Chinese, the appearance of *dui* is in fact optional with [-person] nominals.

(158)   Geruisen (dui) zhe-jian shi   hen guanxin.
         Grissom to   this-CL matter very care
         'Grissom cares about this matter a lot.'

At first sight, it seems that Chinese DOM is sensitive to [+person] nominals, but not to [-person] nominals at all, which is not the case in Spanish. However, this does not mean that Chinese is not a language exhibiting differential object marking. It is just the case that the DOMs in Chinese do not pattern with the ones in Spanish. As pointed out by Rodríguez-Mondoñedo (2007), Kannada is also a DOM language. Significantly, its DOM has the same pattern as the one that we have observed in Chinese. That is, in Kannada, [+person] objects have to be marked by DOMs. On the other hand, [-person] (i.e. inanimate) objects can be all unmarked, but they can optionally have a DOM if they are specific. This is exactly the case in (158). In (158), the internal topic is inanimate and specific, and its DOM is optional. DOM in Chinese is the thus more similar to DOM in Kannada than Spanish.

Given my claim that the (external) Topic Projection can license a [+person] feature, we may expect that *dui* should not be able to occur with [+person] external topics. However, this is possible.

(159)   (dui) Sala, Geruisen hen guanxin.
         to   Sara Grissom very care

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[53] There are some exceptions though. See Rodríguez-Mondoñedo (2007) for details.

One possibility is that whatever is responsible for the possibility of *dui* in (158), where *dui* is not needed, is also responsible for its possibility in (159), where it is also not needed.

Another possibility is that the sentence with *dui* is derived differently from the one without it. In particular, without *dui*, the object moves to CP directly, as in (160a). On the other hand, in (160b), the object moves to the internal topic position first where it has to be accompanied by *dui*. Then it undergoes external topicalization with *dui*.[54]

(160)   a. [$_{CP}$ Sara$_i$ [$_{TP}$ Grissom very care t$_i$]
         b. [$_{CP}$ [dui Sara]$_i$ [$_{TP}$ Grissom t$_i$ [very care t$_i$]

The above proposal is supported by the same phenomenon in the *lian...dou* ('even...all') focus construction. Though it has been proposed that the marker *lian* is optional (cf. Shyu 1995 and Paul 2005), it is in fact obligatory when the focus is a [+person] nominal.

(161)   a. Geruisen lian Sala dou da-le.
            Grissom even Sara all hit-ASP
            'Grissom hit even Sara.'
         b. Geruisen Sala dou da-le.
            Grissom Sara all hit-ASP
            Intended meaning: '*Grissom hit even Sara'

Without *lian*, (161b) means *Sara* even hit *Grissom*. And this paradigm is exactly what we have observed for the preposed object. We then also expect the same paradigm as the one in (159) for the focus projection. This prediction is borne out in (162).

(162)   (lian) Geruisen, Sala dou da-le.
          even Grissom Sara all hit-ASP

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[54] A third possible derivation of (160b) is to consider *guanxin* ('care') a semi-transitive verb, which takes a real PP (see also footnote 11). The real PP would simply undergo external topicalization from within *v*P to CP. This is shown in (i).
    (i)   [$_{CP}$ [dui Sara]$_i$ [$_{TP}$ Grissom [$_{vP}$ t$_i$ [very care t$_i$]

Recall from Chapter 1 that Shyu (1995) proposed that the example with *lian* in (162) is derived from (163), with the *lian* NP moving to a TP-adjoined position from the position it occupies in (163).[55]

(163)   Geruisen [lian Sala] dou da-le.
         Grissom even Sara all hit-ASP

Following Shyu's proposal for the *lian* NP, it is then natural to apply the same derivation to the *dui* NP in (160b), moving it from the TP-internal position to the TP-external position. Hence we can conclude that the optionality of *dui* in (159) in fact involves two different derivations.

Last, notice also that both Personal Proper Names and pronouns are acceptable in the BA construction, just as with the external topic, as shown below.

(164)   a. Geruisen *(ba) Sala sha-le.
            Grissom   BA   Sara kill-AsP
            'Grissom killed Sara.'
         b. Geruisen *(ba) ta   sha-le.
            Grissom   BA   him/her kill-ASP
            'Grissom killed him/her.'

But recall that BA DP is within *v*P (a recursive *v*P to be more specific). Since I assume that in contrast to Spanish, Chinese *v* is not phi-deficient, it is not surprising that Personal Proper Names and pronouns can be present in a BA NP construction.[56]

2.8 Conclusions

In this chapter, I discussed the status of the preposed object in Mandarin Chinese. I showed that the preposed object is not a focus, but a topic. Furthermore, TP-internal topics like bare preposed objects and the BA NP are in the specifiers of independently available

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[55] See Chapter 3 for some relevant discussion of the landing site.
[56] Yang and van Bergen (2007) have proposed that BA is also a DOM in Chinese.

functional projections. In other words, no internal topic projection is present. A number of otherwise puzzling properties of the elements in question have been shown to be explained under this analysis, such as the impossibility of multiple adjacent internal topics, and the restriction on internal topicalization, which can affect only NPs, though not [+person] NPs unless such NPs are accompanied by a preposition-like element *dui*.

If what I have concluded about internal topics regarding the lack of topic projections internally is on the right track, one may wonder if it is also possible not to have a topic projection TP-externally (we would then be departing from the cartographic approach completely). We may assume that external topics are located in Spec, CP instead of Spec TopP, in which case we would not need independent topic projections for topics at all. We would, however, then have to assume that CP is different from AspP or ModP, which host internal topics, in several respects. That is, we would need assume that CP can host any constituent in its Spec, allow recursion, and that it is not phi-feature deficient. Then we may keep the above accounts of the asymmetries between external topics and internal topics. This proposal may not be entirely implausible since CP does differ from the TP domain in certain respects already. For example, there is the well-known distinction between A'-/A-movement. Hence if what has been suggested above can be maintained, we would only be dealing here with an additional difference between the two domains.[57]

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[57] The existence of FocP does not really present a problem for the above proposal. To be more specific, the Focus projection only exists inside the TP domain because of the anchor property of the focus head *dou*. The sentential initial focus can be derived by the movement of the *lian* NP (or any other syntactic category) to the TP-adjoined position (cf. Shyu 1995). In that sense, there is also no real 'FocP' in the CP domain (contra Del Gobbo and Badan 2007).

Chapter 3 The Low Internal Topic Position

3.1 Introduction

In this chapter, I will discuss another construction, possessor raising in the BA construction, and argue that possessor raising also makes use of the Low Internal Topic position, mainly, the BA Topic.

It is well-known that languages differ with respect to the possibility of possessor raising. Thus, Serbo-Croatian allows it, as shown in (1) (see Bošković 2005).

(1) Jovanovog ja volim oca
    John's   I love father
    'I love John's father'

English, on the other hand, disallows such extraction. For example, in sentence (2), the possessor *Grissom* originates in the complex NP [*Grissom('s) father*] (assuming that in this way *Grissom* gets a possessor theta-role), which yields the interpretation that the father has to be *Grissom*'s father, not anyone else's. If *Grissom('s)* is extracted from the complex NP in (2), the result is ungrammatical.[1]

(2) ***Grissom('s)$_i$**, I like [t$_i$ father].

According to Huang (1982), the same phenomenon can be observed in Chinese. Moving the leftmost constituent *Geruisen* ('Grissom') to the sentence initial position in (3) also results in ungrammaticality.

(3) ***Geruisen (de)$_i$** wo xihuan [t$_i$ baba].
    Grissom   DE I   like   father
    'I like Grissom's father.'

(cf. Huang (1982): p516, footnote 4, ex (ii))

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[1] In contrast to what I will argue in this chapter for Chinese, English quite generally prohibits possessor extraction. Assuming that in English, the possessor is in Spec DP while the affix 's is in D, *Grissom's* is not a constituent, an hence cannot undergo movement. If only *Grissom* moves, the affix is stranded behind without a host. Either way, the result is ungrammatical.

Thus, at first sight, the similarity between (2) and (3) supports the conclusion that the ban on possessor raising holds in Chinese, like it does in English. However, there exist some cases indicating that this conclusion may not be correct, and that possessor raising is possible in other contexts in Chinese. For example, there are at least two contexts from which possessor raising is possible: subject position and unaccusative postverbal NPs (cf. Shyu 1995, Xu 2004-2005, Vermeulen 2005, Hsu and Ting 2006, Hsu 2008, Zhang 2008 and many others).[2] The sentences in (4) are the baseline data without possessor raising. The possessor *Grissom* is followed by the genitive marker *-de*, which I assume indicates that the possessor is part of a complex noun phrase and has not undergone raising. Further evidence for this claim comes from the distribution of sentential adverbs such as *apparently*, which cannot occur anywhere within the complex NP [*Grissom - DE - father*], but must follow the whole NP.

(4) a. [NP **Geruisen** (*xianran) de (*xianran) baba] (xianran) xihuan Sala.
         Grissom apparently DE apparently father apparently like Sara
         'Grissom's father (apparently) likes Sara.'
    b. [NP **Geruisen** (*xianran) de baba] (xianran) si-le.
         Grissom apparently DE father apparently die-ASP
         'Grissom's father (apparently) died.'

In (5a-b), on the other hand, there is no genitive marker. Another way for the NP *Grissom* to get case is to move out of the nominal domain and get case in the TP domain. Following Xu (2004-2005), who assumes that multiple NOMs are assigned by T in Korean, I assume that the possessor is assigned nominative by T in a recursive TP. Since under this account, the possessor and the possessee in (5) do not form a constituent, it is correctly predicted that sentential adverbs can intervene between the possessor and the possessee. Furthermore, note

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[2] Possessor raising in passive constructions patterns with the unaccusative construction in (5b). In what follows, I will only give examples with unaccusative verbs.

that in the unaccusative case in (5b), the possessor and the possessee are also separated by the verb.

(5) a. [NP **Geruisen**] (xianran) [NP baba] (xianran) xihuan Sala.
     Grissom   apparently   father   apparently like   Sara
  b. [NP **Geruisen**] (xianran) si-le [NP baba].
     Grissom   apparently die-ASP   father

In this chapter, I will compare the possessor raising analysis of (5) to an alternative base-generation analysis of these constructions and conclude that possessor raising does indeed exist in Chinese. I will first discuss another relevant context in which two separate NPs stand in a possessor-possessee relation, namely the BA construction, and provide several arguments for a possessor raising account and against a base-generation account. Second, I will discuss examples such as (3) and argue that the ungrammaticality of (3) is not caused by a restriction against possessor raising but by a violation of a PF spell-out condition. Finally, I will provide some cross-linguistic comparison of possessor constructions and propose that in the East Asian languages like Chinese, Korean and Japanese, in addition to case, topicalization may also be involved in possessor raising.

3.2 Possessor Raising in the BA Construction

In Chapter 2, I have discussed the Chinese BA construction and argued that the NP following BA occupies an internal topic position in the *v*P domain. One of the examples is given in (7). Whereas in (6) the object stays in its base-generated postverbal position, in (7), the object is topicalized to a preverbal position, following the BA marker. (See Chapter 2 for the arguments that this movement is topicalization).

(6) Geruisen da-shang-le [NP Sala-de shou].
    Grissom hit-hurt-ASP   Sara-DE hand
    'Grissom hurt Sara's hand.'

(7) Geruisen ba [$_{NP}$ Sala-de shou]$_i$ da-shang-le   t$_i$.
    Grissom BA   Sara-DE hand   hit-hurt-ASP

In addition to the sentences in (6) and (7), it is also possible to have examples such as

(8). In this section, I will argue that in cases such as (8), in which the NP following BA (*Sara*)

is obligatorily interpreted as the possessor of the post-verbal NP (*hand*), the possessor has

undergone possessor raising from within the object NP.

(8) Geruisen ba **Sala** da-shang-le shou.
    Grissom BA Sara hit-hurt-ASP hand
    'Grissom hurt Sara's hand.'

To do so, I will first argue that the possessor *Sara* is not base-generated in the BA NP

position.

3.2.1   Pseudo-DOC vs. the BA Construction

The claim that constructions such as (8) involve movement is not uncontroversial;

there has in fact been a long-standing debate about whether these constructions involve

movement or base-generation of the BA NP (cf. Huang 1982, Cheng and Ritter 1988, Yoon

1990, Xu 1993, 2004-2005, Huang 2008 among many others). One of the most recent base-

generation accounts is Huang (2008). In this section, I will argue against Huang's (2008)

proposal that the BA construction in (8) is one of the subtypes of the so-called pseudo-double

object construction (henceforth pseudo-DOC). Furthermore, I will argue for the existence of

possessor raising in (certain) BA constructions in Mandarin Chinese.

A typical pseudo-DOC construction discussed by Huang (2008) is shown in (9). As in

English, the verb *he* ('drink') in Chinese is generally used either as an intransitive or a

transitive verb. However, in this specific construction (pseudo-DOC), it can also be used

ditransitively. In sentence (9), the verb *drink* takes two postverbal complements: a Theme

argument and a so-called Affectee argument.[3] The interpretation of the sentence is that *Grissom* (the subject) drank three bottles of wine (the object), and that *Sara* (the indirect object) is affected by this action. Note that *Sara* can be affected in several different ways. For example, *Sara* could have been the owner of the wine, and Grissom's drinking it would affect her as her wine cellar got decreased. Or *Sara* could have had to pay for *Grissom* after he drank three bottles of someone else's wine. Since *Sara* used her money to pay for *Grissom*, she was affected by losing her money. Thus, under any scenario, *Sara* has to be affected in some way or another.[4] Hence there is general agreement in the literature that *Sara* receives an (obligatory) Affectee theta-role in this kind of construction, which accounts for the desired interpretation.

(9) Geruisen he-le   Sala   san-ping   jiu.
     Grissom drink-ASP   Sara   three-CL   wine
     'Grissom drank three bottles of wine on Sara.'

Huang (2008) proposes a base-generation analysis for the pseudo-DOC construction which explains how the Affectee theta-role is assigned. As shown in (10), the Affectee theta-role is assigned in Spec, VP, and according to Huang, the indirect object *Sara* in (9) is base-generated in this position. To derive the correct word order, the verb then raises to the v head position. The verb movement from V-to-v also follows from the assumption that the v head has to be overtly filled in Chinese (cf. Huang, Li and Li 2009).

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[3] In the following discussion, Beneficiary and Maleficiary (cf. terminology in Huang 1993) are both considered as Affectees. I do not distinguish them unless there is a need for it (i.e. Section 3.5).

[4] Note that according to Tsai (2008) Sara also has to be the possessor of the three bottles of wine in (9). However, native speakers consulted (including myself), disagree with this claim and consider the scenario given in the text a possible situation for this sentence. Also, as pointed out in Huang (2008), there are other pseudo-DOCs which clearly do not have to involve a possessor-possessee relationship. This is shown in (i), where *Sara* clearly does not have to be the possessor of the bridge game.
     (i)   Geruisen ying-le   Sala liang-ci   qiaopai.
             Grissom win-ASP   Sara two-time bridge game
             'Grissom won the bridge game on Sara twice.'
     Hence for sentence (9), I will stick to my observations and Huang's proposal that in pseudo-DOCs, there is no *necessary* possessor-possessee relationship between *Sara* and the three bottles of wine.

(10)

```
               vP
             /    \
          NP1      v'
         Agent    /  \
               vDO-TO   VP
                      /    \
                    NP2     V'
                 Affectee  /  \
                        VACT   NP3
                             Theme/Patient
                               |
   Geruisen      Sara  he-le  san-ping jiu
```
verb raising
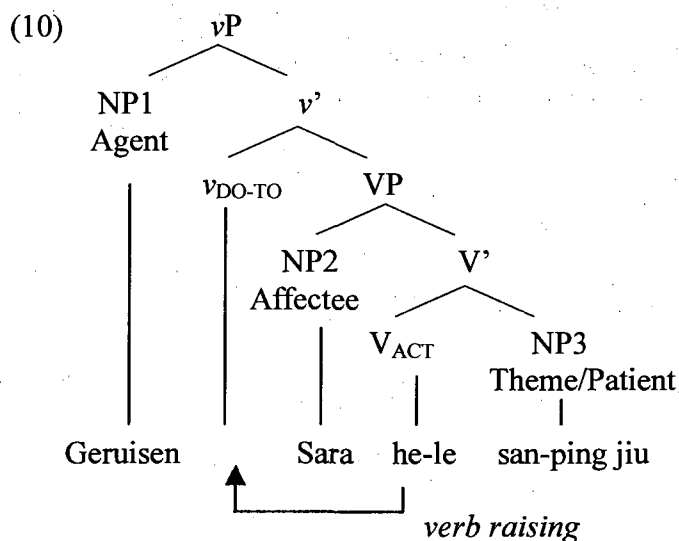
Although it is possible for *Sara* to be the owner of these *three bottles of wine* as described above (a possessor-possessee relation), Huang argues that a possessor raising account is not adequate for sentences like (9). (A possessor raising account requires the possessor to be base-generated in the nominal domain, interpreted as the possessee, followed by movement of the possessor NP to the sentence level.) One of Huang's objections is that there is <u>no</u> <u>necessary</u> possessor-possessee relation between *Sara* and three bottles of wine. Therefore a possible possessor-possessee interpretation may simply be the result of the influence of pragmatics.

Interestingly, Huang also proposes that the above account for pseudo-DOCs can be extended to sentences such as (11), the BA construction. That is, Huang proposes that the BA construction is a subtype of the pseudo-DOC construction. In this sentence, it is *Grissom* who peeled the skin, and the orange is affected by the event of Grissom's peeling of the skin. Notice that the skin <u>must </u>belong to the orange here.

(11) Geruisen ba juzi   bo-le   pi.
      Grissom BA orange peel-ASP skin
      'Grissom peeled the skin of the orange.'

Huang assumes that in Chinese, in addition to structural case, all verbs are able to assign an Inherent Case (Dative or Partitive). Hence in a sentence like (9) (adopting his structure), before raising to *v*, the verb *drink* assigns structural case to NP3, the direct object. After raising to *v*, the indirect object NP2 gets Inherent Case from the verb.

Furthermore, Huang assumes that inherent case (Dative) is only compatible with an animate Affectee argument. Hence, Huang argues, an inanimate indirect object (NP2) is excluded from the pseudo-DOC construction. This is shown in (12), which contrasts with (9). To make the sentence in (12) grammatical, NP2 has to either occur as a possessor marked by *-de* within NP3 (cf. (13a)) or as a BA NP (cf. (13b)).[5] In (13b), the indirect object occupies the same position as NP2 in tree (14). But it gets case from BA, which is an overt realization of *v* (cf. Sybesma 1999). The structure is shown in (14).

(12)   *Geruisen bo-le   **juzi** pi.
      Grissom peel-ASP orange skin
      'Grissom peeled the orange.'

(13)   a. Geruisen bo-le   **juzi**-de pi.
        Grissom peel-ASP orange-DE skin
        'Grissom peeled the orange.'
      b. Geruisen ba **juzi** bo-le   pi.
        Grissom BA orange peel-ASP skin
        'Grissom peeled the orange.'

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[5] In Section 3.2.2, I will show that there is, in fact, a third way to make (12) grammatical, which is not accounted for in Huang's analysis.

(14)

```
                vP
              /    \
           NP1      v'
          Agent    /   \
               v_DO-TO  VP
                       /   \
                     NP2     V'
                   Affectee /   \
                        V_ACT   NP3
                              Theme/Patient

       Geruisen  BA  juzi  bo-le   pi
```
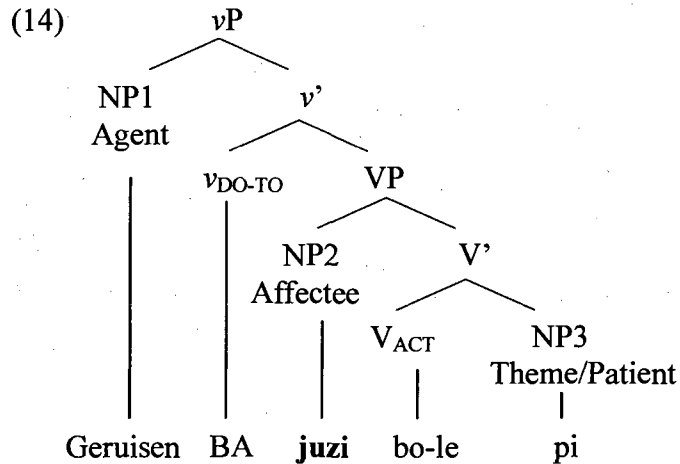
In what follows, I will argue that, although Huang's base-generation account is motivated for cases such as (9), it cannot be extended to cases such as (11)/(13b). Rather, I propose that the latter is best accounted for by assuming possessor raising. The structures I propose for (19) and (11)/(13b) are shown in (15).

(15)

```
         vP
        /   \
      NP1    v'
            /   \
           v    ApplP          Applicative Projection
               /    \
            NP2     Appl'
                   /    \
                Appl    VP
                       /    \
                    Spec     V'
                            /   \
                           V     NP3
                           |     |
     Grissom  drank_i  Sara     t_i   3 bottles of wine (pseudo-DOC, = (19))

     Grissom  BA_k  Sara_i  t_k   hit-hurt-ASP [ t_i  hand]   (BA construction, = (13b))
```
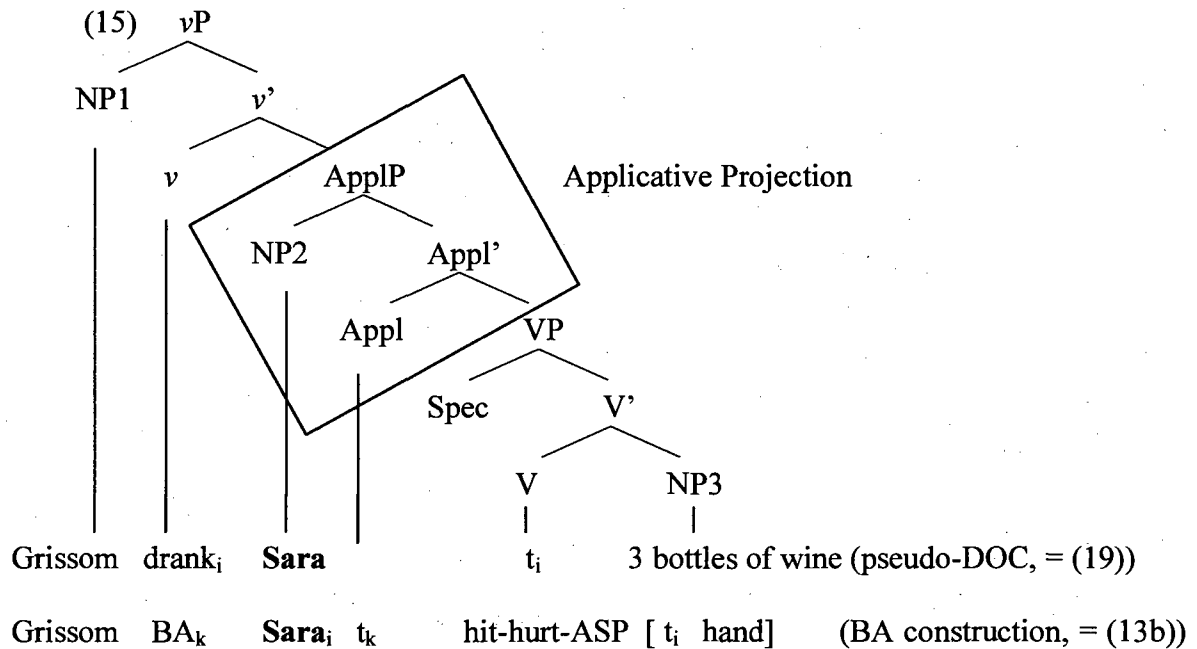
I follow Pylkkänen (2008) and Tsai (2008) in assuming that there is an applicative projection between vP and VP, and that an Affectee theta-role is licensed in that domain.[6] This part is

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[6] For Tsai (2008), this applicative projection in (15) is a middle Applicative projection, but for Pylkkänen (2008) it is a high one. For the current discussion, I will just call it 'applicative' projection, remaining uncommitted

essentially the same as Huang's Affectee proposal, with the minor difference that Huang does not assume a separate Affectee projection (ApplP), but situates the Affectee in Spec VP. However, where I depart significantly from Huang is that I propose that not all Affectee constructions involve base-generation of the affected argument. In particular, I will argue that sentences like (19) in which NP2 and NP3 do not express a necessary possessor-possessee relation should be distinguished from constructions such as (13b), which do involve an obligatory possessor-possessee relation between NP2 and NP3. Whereas the former are true pseudo-DOC constructions in Huang's sense, the possessor NP2 in the latter (cf. (11)/(13b)) is not base-generated in the Spec ApplP position but moved there via possessor raising from within the nominal domain of the object NP3.[7]

In the following discussion, I will first discuss some puzzles which cannot be explained under Huang's base-generation approach for the BA construction. Furthermore, I will show that there are a number of differences between these two constructions (the pseudo-DOC and BA constructions), and argue that these differences cannot be accounted for if the two constructions receive the same structure. I will then provide an account for both constructions. Last, I will give some supporting evidence for the current analysis based on the distribution of resumptive pronouns in Section 3.3.

3.2.2   Some Puzzles for a Case/animacy based Account

In the literature arguing for the existence of possessor raising in Chinese (cf. Cheng and Ritter 1988, Yoon 1990, Xu 2004-2005 etc.), in addition to the sentence in (11), repeated

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whether it is high or middle. See Section 3.5.1 for a more detailed discussion of the difference between high and low Applicative projections.

[7] I also assume that BA is first merged into the head position of ApplP, and moves to the v head position later. See Section 3.4 for motivation of this proposal.

as (16), which involves a part-whole relationship, examples such as (17) involving a body-part relationship are given. Both of these relations are inalienable relationships and the possessor-possessee relation is obligatory. Under a possessor raising account for (17), the complex NP *Sala shou* ('Sara's hand') is originally merged in the postverbal position. *Sara* then moves to the preverbal position following BA, resulting in the so-called possessor raising construction.[8]

(16)   Geruisen ba **juzi**$_i$ bo-le   [t$_i$ pi].   (part-whole)
        Grissom BA orange peel-ASP   skin
        'Grissom peeled the orange.'

(17)   Geruisen ba **Sala**$_i$ da-shang-le   [t$_i$ shou].   (body-part)
        Grissom BA Sara   hit-hurt-ASP   hand
        'Grissom hit Sara on her hand.'

Syntactically, examples such as (17) are problematic for Huang's analysis. Since *Sara*, being animate, can get Dative case, there is no motivation for BA to be inserted in (17). Moreover, the pseudo-DOC counterpart of (17) is in fact ungrammatical, as shown in (18).

(18)   *Geruisen da-shang-le   **Sala** shou.
         Grissom hit-hurt-ASP Sara   hand
        'Grissom hurt Sara's hand.'

Recall that according to Huang, only animate Affectee arguments can get Dative case from the verb. That's why sentence (9), repeated here as (19) is grammatical, but sentence (12), repeated here as (20), is ungrammatical.

(19)   Geruisen he-le   Sala   san-ping   jiu.   = (9)
        Grissom drink-ASP Sara   three-CL   wine
        'Grissom drank three bottles of wine on Sara.'

(20)   *Geruisen bo-le   **juzi** pi.   = (12)
         Grissom peel-ASP   orange skin
        'Grissom peeled the orange.'

---

[8] Note that it is also possible to move the whole phrase *juzi pi* ('orange's skin') or *Sala shou* ('Sara's hand) to the preverbal position following BA. I will discuss this construction in Section 3.2.3.

In (18), the Affectee *Sara* is animate, hence it should be possible for (18) to have the structure analogous to (19); that is, it should be possible for the NP *Sara* to get Dative case from the verb. However, (18) is as ungrammatical, just like (20). Then, we can conclude that case/animacy cannot be the crucial factor for distinguishing between (19) and (20).

Furthermore, notice that the ungrammatical examples in (18) and (20) both involve the bare nouns *hand* and *skin*. Importantly, when a numeral and a classifier are added to the bare noun, *both* sentences become grammatical. This is shown in (21) and (22), respectively. Note that the lack of the genitive marker *-de* indicates that the possessor and the possessee do not form a single complex NP. Again, Huang's account makes an incorrect prediction regarding (22): since *orange* is inanimate, it cannot receive Dative case and it should therefore not be possible in the pseudo-DOC construction.

(21) Geruisen da-shang-le **Sala** yi-zhi shou.
      Grissom hit-hurt-ASP Sara one-CL hand
      'Grissom hurt one of the hands from Sara's.'

(22) Geruisen bo-le **zuji** yi-ceng pi.
      Grissom peel-ASP orange one-CL skin
      'Grissom peeled one layer of skin from the orange.'

Notice that the example in (19) also becomes ungrammatical when NP3 is changed to a bare noun. And its BA construction counterpart is also impossible, no matter whether NP3 is a bare noun or not. Under Huang's account, (23) should be grammatical, contrary to fact.

(23) *Geruisen he-le Sala jiu.
      Grissom drink-ASP Sara wine
      'Grissom drank wine on Sara.'

(24) *Geruisen ba Sala he-le (san-ping) jiu.
      Grissom BA Sara drink-ASP (three-CL) wine
      'Grissom drank three bottles of wine on Sara.'

Examining all the examples above, a clear generalization emerges: a pseudo-DOC sequence such as the one in (25) is not possible when NP3 is a bare noun. On the other hand, as summarized in (26), if NP3 includes a numeral and a classifier, the pseudo-DOC sequence is permitted in all cases. Importantly, neither animacy of NP2 nor an optional vs. obligatory possessor relationship between NP2 and NP3 play a role in the licensing of this construction. Lastly, as in (27), if NP3 is a bare noun, only the BA construction is possible. And this bare noun has to be in an inalienable possession (i.e. obligatory possessor-possessee) relation with NP2 (compare (16)/(17) to (24)).[9],[10]

(25) *NP1 V NP2$_{Affectee}$ NP3$_{BARE NOUN}$

(26) NP1 V NP2$_{Affectee}$ [Number + Classifier + NP3]
            (Possessor --------------------------- Possessee)

(27) NP1 BA NP2$_{Affectee}$ V NP3$_{BARE NOUN}$
            Inalienable Possessor --- Possessee

As we have seen, these generalizations cannot be explained under Huang's case/animacy account without further assumptions. One straightforward assumption would be to add a restriction against bare nouns in NP3 position in the pseudo-DOC sequence. Second, it would be necessary to give up one of the core assumptions of Huang's approach, namely that the pseudo-DOC sequence is only possible when NP2 is animate (cf. (26), which is possible with animate and inanimate NP2s). Lastly, the semantic restriction on the BA NP would have to be defined as a restriction on inalienable possessors, rather than inanimate Affectees. While the generalizations in (25) to (27), once amended as suggested, are compatible with a base-

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[9] As we will see in Section 3.2.4, although only the BA construction is possible when NP3 is a bare noun, the BA construction itself is not restricted to cases where NP3 is a bare noun. Thus, the pseudo-DOC sequence in (21) and (22) will be shown to alternate with the BA construction in certain well-defined cases.
[10] As we will see in Section 3.4, the BA construction in (27) is only possible when NP2 is an (obligatory) inalienable possessor of NP3. The fact that in (24), *Sara* could be interpreted as an Affectee and the possessor of NP3 is not sufficient to license the BA construction. I will discuss this special requirement in Section 3.4.

generated account, I will show in the next section that there are constructions which challenge a uniform base-generation structure for all Affectee constructions.

3.2.3   Against a Uniform Base-generation Account

A major puzzle for the base-generation account is raised by examples such as (28). As previously mentioned, in the BA construction, Huang's proposal and mine overlap in that we both assume an Affectee position, where an Affectee theta-role is assigned. Therefore, constructions like (16) or (17), which involve an Affectee interpretation, are compatible with both proposals. One important difference, however, is that, in my account, an Affectee interpretation/theta-role is not necessary, since the possessor NP can get a theta-role in its base-position—the possessor position of NP3. I argue that the sentence in (28) shows that not all BA possessor constructions can be reduced to a base-generated Affectee structure.[11]

> (28)   Geruisen ba Nike taitai da-shang-le shou.
> Grissom BA Nick wife hit-hurt-ASP hand
> 'Grissom hurt Nick's wife's hand.'

The above sentence has the interpretation that it is *Nick*'s wife whose hand is hurt by *Grissom*. There are two possessor-possessee relations: *wife-hand* and *Nick-wife*. However, it is the *wife* who receives the Affectee reading, not the husband *Nick*. Although it is also possible that *Nick* may be affected since it is his wife who got hurt, this is not a necessary interpretation. For example, if *Nick* didn't know about the event that his wife got hurt, he would not be affected at all.

For accounts like Huang (2008) where there is no possessor raising, there are two potential problems with this sentence. First, recall that the BA construction is subsumed under the pseudo-DOC construction. The possessor-possessee interpretation is not done via

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[11] See also the discussion in Vermeulen (2005) for similar multiple accusative sentences in Korean.

theta-role relations, but via discourse or context. Though there is a possessor-possessee relation between *Nick* and his wife, *Nick* does not get a possessor theta-role from *wife*. Therefore the NP *Nick* has to be base-generated in a position where it can get a theta-role. Under Huang's structure, this is problematic. In addition to the Applicative projection which is already occupied by *wife*, no other projection here can assign a theta-role, even with a recursive *v*P projection. On the other hand, if we assume that multiple Applicative projections are available, *Nick* could get an Affecttee theta-role in (28), but we then run into another problem. If *Nick* is base-generated under the Affectee projection, we get the wrong meaning since Nick would have to be affected, contrary to fact. The conclusion therefore is that in a base-generation account, there is simply no way that *Nick* can get the 'correct' theta-role. Hence for Huang (2008), sentence (28) could not be derived, since *Nick* ends up without a theta-role or the wrong Affectee theta-role. The two possibilities discussed above are shown in (29).

(29)

```
                      vP
                  ╱        ╲
              NP1           v'
              Agent      ╱      ╲
                │      vDO-TO    vP/Affectee VP
                │        │      ╱        ╲
                │        │    NP2         VP
                │        │     │      ╱       ╲
                │        │     │    NP3        V'
                │        │     │   Affectee ╱     ╲
                │        │     │     │    VACT     NP4
                │        │     │     │     │    Theme/Patient
                │        │     │     │     │       │
             Grissom    BA   Nick  wife hit-hurt-ASP  hand
```
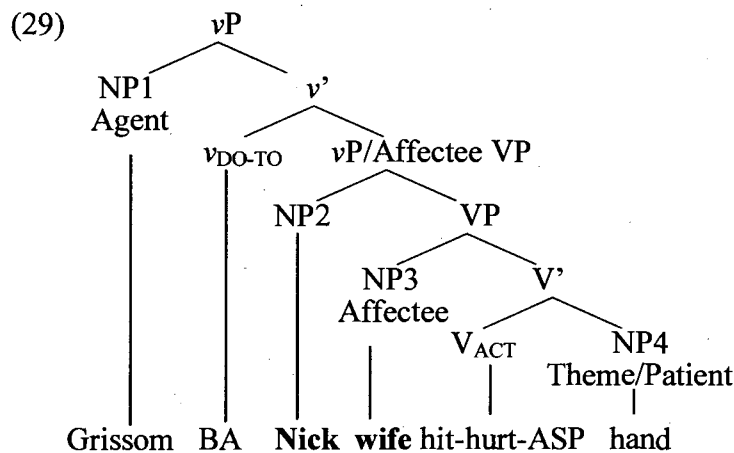
Alternatively, one might suggest that *Nick* can somehow get a possessor theta-role from *wife*. That is, *Nick* and *wife* are within one complex NP and the whole phrase [*Nick wife*] is in the Spec of VP, where it receives an Affectee theta-role. With this assumption, there is no problem with the theta-role assignment and the interpretation. *Nick* now gets a possessor

theta-role, and is not a necessary Affectee. However, there are two serious problems for this account. First, it can easily be shown that *Nick* and *wife* do not have to form a constituent. In (30), the clausal adverb 'again' intervenes between the two NPs, hence they cannot form a single complex NP.

>   (30)   Geruisen ba Nike (you shi) taitai da-shang-le   shou.
>   Grissom BA Nick again is   wife hit-hurt-ASP hand
>   'Grissom again hurt Nick's wife's hand.'

Second, if *Nick* has to start in the nominal domain in order to get the possessor theta-role, it ends up without a case. Recall that if there are two nominals inside the same nominal domain, the genitive marker *-de* is required (cf. (18)). Furthermore, *Nick* cannot move to get case because this is a base-generation approach. Once *Nick* moves, Huang's revised proposal is essentially the same as my proposal of possessor raising.

In addition to the construction in (28), I will show in detail in the following sections that the pseudo-DOC and BA constructions discussed in the previous section also show important syntactic differences which challenge a uniform base-generation account. To illustrate one of the differences, consider the examples in (19) and (21) again (repeated as (31) and (32)). As shown there, a possessive pronoun (*ta*) can be inserted in NP3 in the former, but not the latter.[12] Although the account of the distribution of *ta* is quite complex (see section 4.3), this difference follows straightforwardly if it is assumed that only (31) involves base-generation of *Sara* in the Affectee position, whereas (32) involves movement of the possessor from within NP3: if there can only be one possessor per NP, the possessor position

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[12] A question that may arise for (31) and (32) is how the *–de* marker interacts with the possessive pronoun since it is also possible to say *ta-de san-ping jiu* ('his three bottles of wine'). As far as I can see, for all the examples with possessive or resumptive pronouns in this chapter, the appearance of *–de* will not change the grammaticality/ungrammaticality of the sentences. But also note that there seems to be a lot of speaker variation regarding the issue when *–de* can be omitted. As pointed out by Lin and Thompson (1981), speakers generally allow omitting *–de* with kinship terms, but there are also other contexts where *–de* can be omitted. Though they do give an example to illustrate the later point, there is no clear statement about the conditions when *–de* can be omitted.

is already taken up by the moved possessor in (32), hence an additional possessive pronoun is impossible. In (31), on the other hand, the possessor position of NP3 is available, since the Affectee is base-generated outside NP3.

(31) Geruisen he-le   Sala$_i$ (ta$_i$) san-ping jiu.   = (19)
      Grissom drink-ASP Sara   she three-CL wine
      'Grissom drank three bottles of wine on Sara.'

(32) Geruisen da-shang-le   Sala (*ta$_i$) yi-zhi   shou.   = (21)
      Grissom hit-hurt-ASP Sara   she one-CL   hand
      'Grissom hurt one of Sara's hands.'

3.2.4 Summary

The distribution of pseudo-DOC and BA constructions are summarized in (33). As we have seen, a uniform base-generation account is not sufficient to cover the following facts. First, the possibility of the pseudo-DOC order (V-NP2-NP3) does not correlate with the Case/animacy properties of NP2 (contra Huang's proposal). Although the V-NP2-NP3 order is in complementary distribution with the BA construction in (19) and (24), this is not the case for the pair (16)/(22) or (17)/(21). Hence a Case/animacy based account cannot be at work to distinguish between (19) and (24).

(33)

vP

NP1 — v'
Agent

$v_{\text{DO-TO}}$ — VP

NP2 — V'
Affectee

V_{ACT} — NP3
Theme/Patient

Grissom	drink$_i$	**Sara**	t$_i$	three-CL wine	= (19)
*Grissom	drink$_i$	**Sara**	t$_i$	wine	= (23)
*Grissom	BA	**Sara**	drink	(three-CL) wine	= (24)
Grissom	hit-hurt$_i$	**Sara**	t$_i$	one-CL hand	= (21)
*Grissom	hit-hurt$_i$	**Sara**	t$_i$	hand	= (18)
Grissom	BA	**Sara**	hit-hurt	hand	= (17)
Grissom	peel$_i$	**orange**	t$_i$	one-CL skin	= (22)
*Grissom	peel$_i$	**orange**	t$_i$	skin	= (20)
Grissom	BA	**orange**	peel	skin	= (16)

Second, the possibility vs. impossibility of possessive pronouns casts doubt on the proposal that the pseudo-DOC and BA constructions share the same structure. Third, under Huang's account, we cannot explain the grammaticality of (28). Either there is a theta-role problem, or there is a case problem. In the following sections, I will present an account that captures all the properties of the BA construction discussed so far.

3.2.5   The Movement Approach for the BA Construction

The structure in (15) that I have proposed to distinguish pseudo-DOC from the BA construction is repeated in (34).

(34) vP

```
(34)   vP
      /    \
    NP1     v'
           /  \
          v    ApplP          Applicative Projection
              /    \
            NP2    Appl'
                  /    \
                Appl    VP
                       /  \
                     Spec   V'
                           /  \
                          V    NP3
                          |    |
```

| Grissom | drank$_i$ | **Sara** | | t$_i$ | 3-CL wine | (pseudo-DOC, = (19)) |
| Grissom | BA$_k$ | **Sara$_i$** | t$_k$ | hit-hurt-ASP [t$_i$ hand] | | (BA construction, = (17)) |
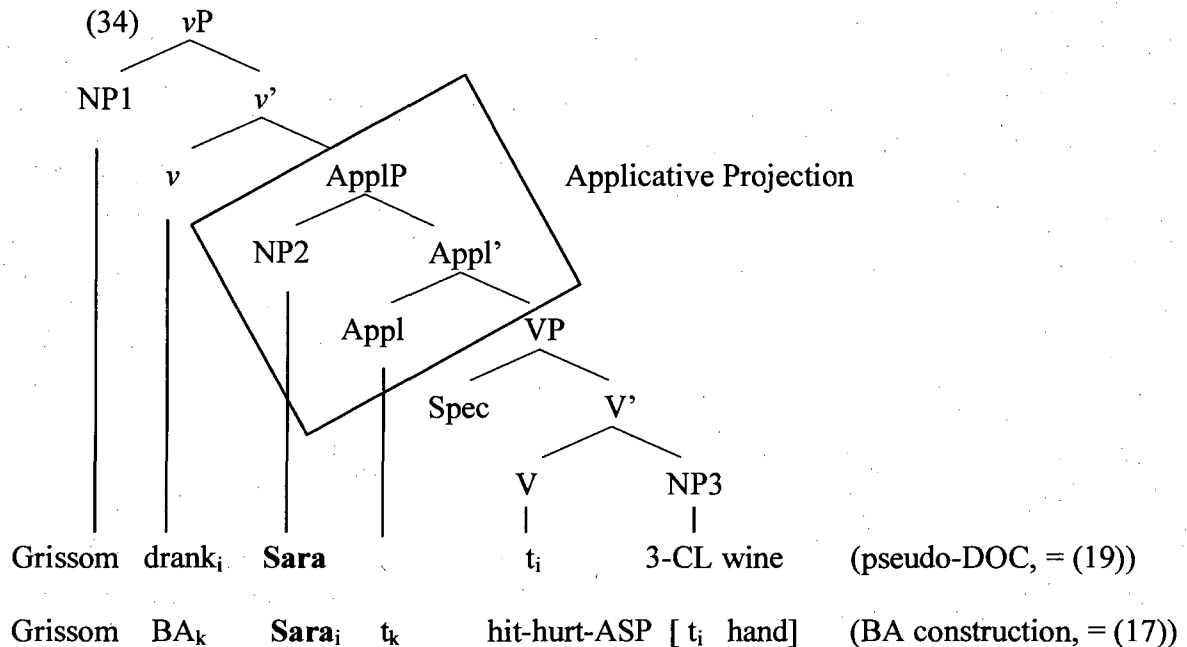
A number of properties are derived immediately from these structures. First, the different structures in (34) capture the different possessor-possessee relations in (17) and (19) straightforwardly. As mentioned above, in the pseudo-DOC in (19), in contrast to the BA construction in (17), there is no necessary possessor-possessee relationship between NP2 and NP3. Hence it is not difficult to come up with a scenario where *Sara* is not the possessor of the three bottles of wine. For example, *Sara* may invite *Grissom* to a bar, and she pays for his drinking of the wine. Under this scenario, it is perfectly fine to use sentence (19). Since NP2 does not receive a possessor theta-role from NP3 in (19), this interpretation is expected. A possessor-possessee relationship is possible in this construction. However, it is purely contextual (see Huang 2008). In the BA construction in (17), on the other hand, NP2 is base-generated as the possessor of NP3 interpretation, hence a possessor interpretation is obligatory (it cannot be the case that *Sara*'s husband's hand was hurt, and she was affected).

Second, notice that NP2 in both constructions is located in Spec ApplP, where it receives the Affectee reading. This explains the source of the Affectee reading in both

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constructions. (For the BA construction, NP2 will have multiple theta-roles; see the discussion below.)

Based on the above contrast, I would also like to propose that whenever there is an inalienable relationship (i.e., obligatory possessor-possessee relation) between NP2 and NP3, that relationship is not simply caused by pragmatics, but rather it is an indication of the base-generation of NP2 as a possessor within NP3.[13] As a consequence, constructions where an inalienable possessor NP2 is not part of a complex noun phrase with its possessee NP3 at the surface must be analyzed as involving possessor raising. I will show that this hypothesis makes some interesting predictions, which will be supported by the data.

Let us now consider possessor raising in the BA construction in more detail. In sentences like (17) (repeated as (35)), I assume that initially the possessor *Sara* and the possessee *hand* are in the same NP. The possessor-possessee relation is determined at this point—the possessor receives a possessor theta-role within the noun phrase. However, this combination is not legitimate since the possessor does not have case. There are two ways to circumvent this problem. Either the genitive case marker -*de* is inserted, or the possessor raises to another case position, namely the position below BA. These two strategies are shown below.

(35)   a. Geruisen da-shang-le   [NP **Sala** *(de) shou].
        Grissom hit-hurt-ASP   Sara   DE   hand
       b. Geruisen ba   **Sala**   da-shang-le   shou.
        Grissom BA   Sara   hit-hurt-ASP hand
       'Grissom hit Sara on her hand.'

---

[13] See section 3.4 for a detailed discussion of the interaction of possessor-possessee relations and inalienable relationships. In short, I will argue that BA imposes a specific semantic requirement which will restrict NP2 in the possessor raising configuration [BA-NP2-V-NP3] to inalienable NPs. On the other hand, this BA requirement will allow both alienable and inalienable possessors in the configuration [BA-NP2-NP3-V].

Notice that because a possessor theta-role is assigned inside the nominal domain, the only interpretation that we can get for the indirect object in (35b) is *Sara* as the possessor of the hand. After movement to Spec,ApplP *Sara* receives another theta role—the Affectee role. The double theta-role assignment to NP2 in the BA construction is similar to the one proposed in Lee-Schoenfeld (2006) for possessor raising constructions in Hebrew and German.

Next, let us consider the problematic example (28), repeated here as (36). Recall that under Huang's proposal, this sentence cannot be derived because *Nick* ends up with no/the wrong theta-role or no case.

(36) Geruisen ba Nike taitai da-shang-le shou.
      Grissom BA Nick wife hit-hurt-ASP hand
      'Grissom hurt Nick's wife's hand.'

Under the possessor raising approach, there are no problems in deriving this sentence. The structure is shown in (37). In (37), the complex possessor *Nike taitai* ('Nick's wife') raises from within the postverbal NP to the preverbal position (to Spec ApplP). Following the idea of a recursive *v*P structure in the BA construction (cf. Huang, Li and Li 2009), after getting the possessor theta-role from the NP *wife*, *Nick* further moves to the specifier of a recursive *v*P. Notice that this structure correctly predicts that *Nick* does not have to be affected by the hurting of his wife's hand. The fact that *Nick* does have to be interpreted as the possessor of *wife*, on the other hand, also follows from this structure, since the possessor theta-role is the only theta-role available for the NP *Nick*. Lastly, there is also no problem with case assignment because *Nick* is assigned case from the higher *v* head occupied by BA, while the

phrase [t$_i$ wife] gets case from the lower *v* (the structure in (37) is thus similar to multiple accusative constructions in Korean; see Yoon 1990, Xu 2004-2005, and Vermeulen 2005).[14]

(37)
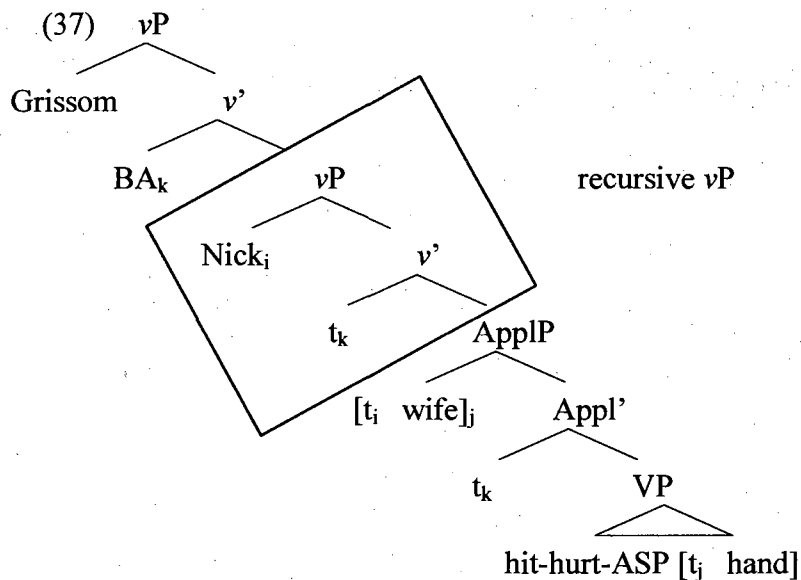
recursive *v*P

Assuming that multiple recursive *v*Ps are available, the current account also predicts that all three nominals can stay in the preverbal positions without the appearance of *-de*. This prediction is borne out as shown in (38). The structure is shown in (39).

(38) Geruisen ba Nike taitai shou da-shang-le.
      Grissom BA Nick wife hand hit-hurt-ASP

---

[14] I assume that a recursive *v*P is only possible when there is BA—that is when there is an ApplP.

(39)

```
          vP
        /    \
  Grissom     v'
            /    \
         BA₃      vP
                /    \
            Nickᵢ     v'
                    /    \
                  t₃      vP
                        /    \
                 [tᵢ wife]ⱼ    v'
                             /    \
                           t₃      ApplP
                                 /      \
                          [tⱼ hand]ₖ     Appl'
                                       /      \
                                     t₃        VP
                                             /    \
                                      hit-hurt-ASP  tₖ
```

double recursive vP
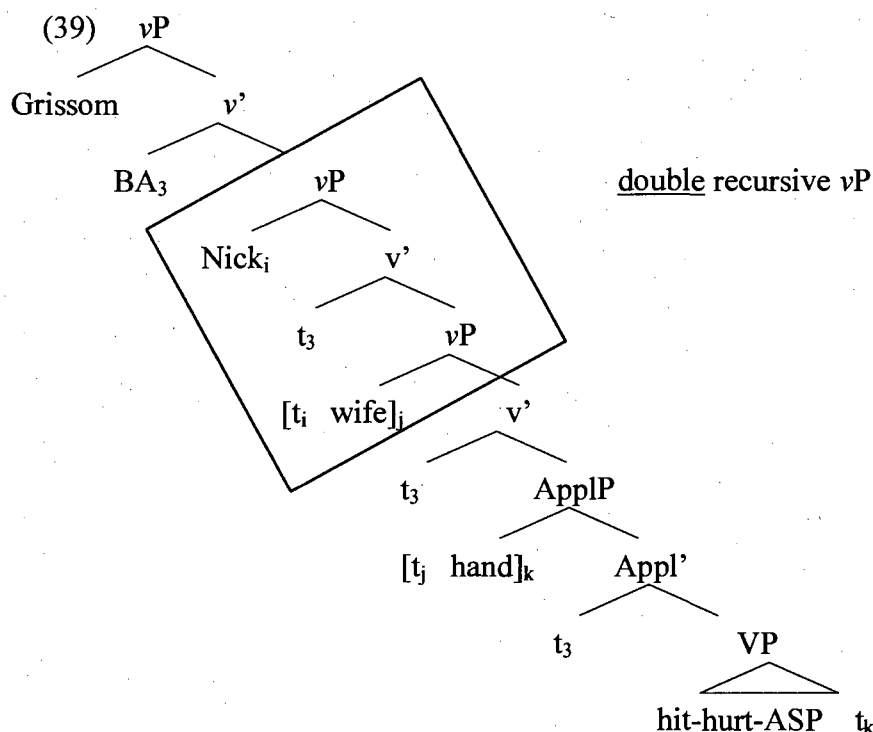
In (38) the 'hand' gets the Affectee theta-role, while 'wife' and 'Nick' get possessor theta-roles.

Now consider the example in (40). Recall that the phrase *Sala shou* ('Sara's hand') is not acceptable in the postverbal position unless the genitive marker *-de* is inserted between the two NPs, repeated here as (40a). However, this combination is acceptable in the preverbal position, as shown in (40b). Furthermore, the genitive marker is now optional. So, there is a postverbal-preverbal asymmetry at work here.

(40) a. Geruisen da-shang-le   [NP Sala *(de) shou].   = (35a)
         Grissom hit-hurt-ASP   Sara   DE   hand
         'Grissom hut Sara's hand.'
      b. Geruisen ba Sala (de) shou da-shang-le.
         Grissom BA Sara DE hand hit-hurt-ASP

I argue that example (40b) without the genitive marker *-de* is exactly like (36). On the other hand, with *-de* in between, *Sala de shou* ('Sara's hand') is a noun phrase, like the one in the postverbal position in (40a). I propose that, without *-de*, (40b) is derived by possessor

raising in the preverbal position. That is, the whole NP *Sala shou* ('Sara's hand') first moves

to the Spec of ApplP, followed by further possessor raising of *Sara* to the Spec of a higher

recursive *v*P. This derivation is shown in (41).[15] Note that with *-de* in between, the NP [*Sara*

de hand] starts postverbally and moves to Spec ApplP as a whole.

(41)

```
        vP
       /  \
  Grissom  v'
          /  \
       BAₖ    vP
             /  \
          Saraᵢ  v'
                /  \
              tₖ   ApplP
                  /  \
            [tᵢ hand] Appl'
                     /  \
                   tₖ   VP
                        /\
                   hit-hurt-ASP
```

recursive *v*P
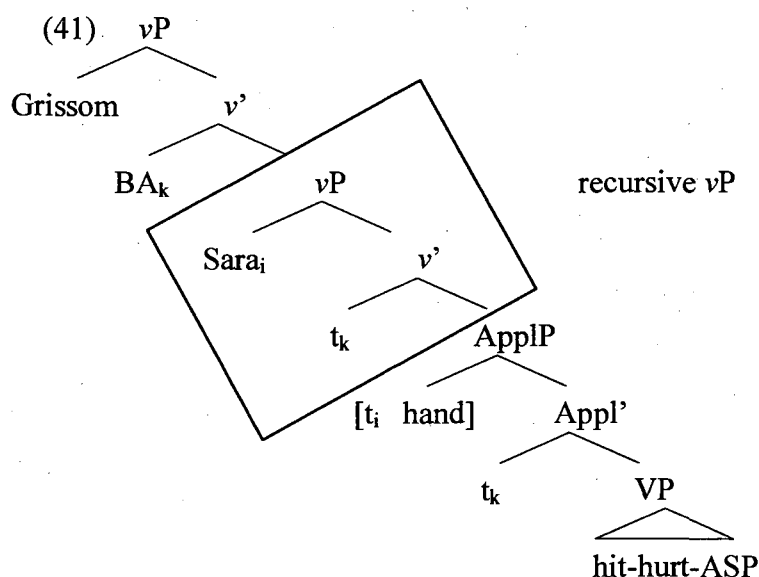
Note that in this structure *Sara* does not have an Affectee theta-role; but since *Sara*'s hand is

an Affectee, and there is a body-part (inalienable) relation between *Sara* and her hand, there

might appear to be an Affectee effect on *Sara* caused by the subset-superset relation between

the possessor and possessee (see also the discussion of alienable/inalienable nominals in

Section 3.4).

3.2.6   V-NP2-NP3 ≠ Pseudo-DOC

Now we turn to the paradigm in (29), repeated here as (42) under my proposal. Recall

that Huang's case/animacy account cannot explain this paradigm. In order to facilitate the

discussion, I divide this paradigm into three subgroups: i) (19), (21) and (22), ii) (23), (18)

---

[15] In section 3.2.6, I will show that a possessor raising derivation is not available in (40a).

and (20), and iii) (24), (17) and (16). I will discuss the first two groups in this section, and

leave the third group for Section 3.4.

(42)   vP

NP1   v'

v   ApplP   Applicative Projection

NP2   Appl'

Appl   VP

Spec   V'

V   NP3

Grissom	drink$_i$	**Sara**		t$_i$	three-CL wine	= (19) (i)
*Grissom	drink$_i$	**Sara**		t$_i$	wine	= (23) (ii)
*Grissom	BA$_k$	**Sara$_i$**	t$_k$	drink	[t$_i$ (three-CL) wine]	= (24) (iii)
Grissom	hit-hurt$_i$	**Sara$_i$**		t$_i$	[t$_i$ one-CL hand]	= (21) (i)
*Grissom	hit-hurt$_i$	**Sara$_i$**		t$_i$	[t$_i$ hand]	= (18) (ii)
Grissom	BA$_k$	**Sara$_i$**	t$_k$	hit-hurt	[t$_i$ hand]	= (17) (iii)
Grissom	peel$_i$	**orange$_i$**		t$_i$	[t$_i$ one-CL skin]	= (22) (i)
*Grissom	peel$_i$	**orange$_i$**		t$_i$	[t$_i$ skin]	= (20) (ii)
Grissom	BA$_k$	**orange$_i$**	t$_k$	peel	[t$_i$ skin]	= (16) (iii)

Let us focus on the grammatical examples (19), (21), (17), (22) and (16) first. Apart from

(19), all the other sentences involve an inalienable relationship between NP2 and NP3. Even

in sentences (22) and (21), which occur in the V-NP2-NP3 order (cf. the same order as the

pseudo-DOC in (19)), an inalienable relationship is involved. Under the analysis proposed

above, this would entail that the possessors *Sara* and *orange* in (21) and (22), respectively,

are base-generated within NP3 and moved to Spec, ApplP, just like their BA counterparts in

(17) and (16). I will argue that possessor raising is indeed motivated for all the cases but (19).

Note first that nothing excludes a derivation involving possessor raising as indicated in the structures in (42). The main difference between the BA construction in (17) and the examples in (21), (17), (22) and (16) is that in addition to the possessor, the verb also moves in the latter. In the BA construction, on the other hand, BA is inserted in the Appl head and hence BA, being the closest head to v, has to move to fulfill the requirement that v needs to be overt (see Huang, Li and Li 2009). I assume that, in principle, the choice between whether or not BA is inserted is free (but see section 3.4 for an independent semantic restriction imposed by BA). This is motivated by the fact that, in addition to the orders in (21) and (22), the corresponding BA constructions are available as well (see (43)).

(43)   a. Geruisen ba Sala$_i$ da-shang-le [t$_i$ yi-zhi   shou].
          Grissom BA Sara hit-hurt-ASP   one-CL hand
          'Grissom hurt one of Sara's hands.'
       b. Geruisen ba juzi$_i$ po-le   [t$_i$ yi-ceng pi]
          Grissom BA orange peel-ASP   one-CL skin
          'Grissom peeled the orange's skin.'

Thus, I will argue that although (19), (21) and (22) (group (i)) involve the same surface order (V-NP2-NP3), only (19) is derived by base-generation, whereas (21)-(22) are derived by possessor raising as indicated in (42).

Before providing arguments for this analysis, I would like to discuss the examples in group (ii) ((18), (20) and (23)) and provide an account of the ungrammaticality of these constructions. As noted in section 3.2.3, the main difference between the grammatical and ungrammatical cases in the V-NP2-NP3 order is whether NP3 is a bare noun or a larger unit. I would like propose that this is exactly what causes the ungrammaticality of (18), (20) and (23). More specifically, I suggest that the sole reason for the impossibility of these examples is that there is an adjacency requirement between the verb and a bare noun complement (independently of whether the structure involves a base-generation or a possessor raising
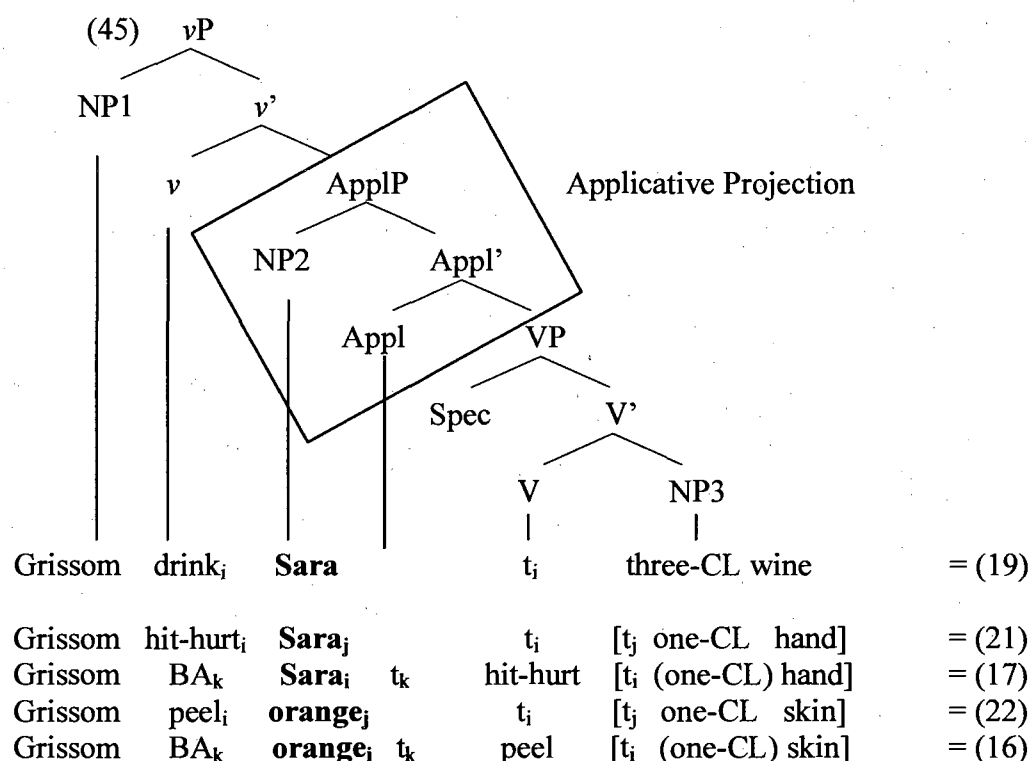
configuration). I leave it open whether the adjacency requirement is a PF property or the result of the requirement that bare nouns have to undergo incorporation into the verb (cf. Baker 1988). Importantly, either assumption will correctly rule out (23), (20) and (18) since in these cases, the bare noun and the verb are non-adjacent or incorporation clearly did not take place (since the verb alone has moved to a higher position). In the BA constructions in (16) and (17), on the other hand, the verb is in its base position, hence it is adjacent to the bare noun and incorporation can take place.

Evidence for this analysis comes from the examples in (44) involving the BA construction. While frequency adverbs can occur between the verb and its complement when the complement is not a bare noun (cf. (44d)), the BA construction is excluded when the sequence V-bare object is interrupted by an adverbial (i.e. (44b). If the adverb follows the bare noun as in (44c), the structure is again grammatical.)

(44) a. Geruisen BA juzi   po-le   pi.   = (16)
         Grissom BA **orange** peel-ASP   skin
         'Grissom peeled the skin of the orange.'
      b. *Geruisen BA juzi   po-le   san-ci   pi.
         Grissom BA orange peel-ASP   three-time skin
         'Grissom peeled the skin of the orange for three times.'
      c. Geruisen BA juzi   po-le   pi san-ci.
         Grissom BA orange peel-ASP   skin three-time
      d. Geruisen ba yangcong po-le   san-ci   yi-ceng pi.
         Grissom BA onion   peel-ASP three-time one-CL   skin
         'Grissom peeled one layer of skin of the onion for three times.'

Assuming that the verb and a bare noun have to be adjacent, (44b) is correctly predicted to be impossible. The fact that bare nouns (in contrast to modified nouns) show the same behavior independently of whether the construction is a BA construction or a pseudo-DOC provides strong support for the irrelevance of the bare noun restriction to the type of construction under consideration. I will therefore ignore examples with bare noun objects from now on.

Let us now return to the issue of base-generation vs. possessor raising. The claim I will argue for is summarized again in (45).[16]

(45)

```
        vP
       /  \
    NP1    v'
          /  \
         v    ApplP          Applicative Projection
             /    \
           NP2    Appl'
                 /    \
              Appl     VP
                      /  \
                   Spec   V'
                         /  \
                        V    NP3
                        |    |
```

Grissom	drink$_i$	**Sara**		t$_i$	three-CL wine	= (19)
Grissom	hit-hurt$_i$	**Sara$_j$**		t$_i$	[t$_j$ one-CL hand]	= (21)
Grissom	BA$_k$	**Sara$_i$**	t$_k$	hit-hurt	[t$_i$ (one-CL) hand]	= (17)
Grissom	peel$_i$	**orange$_j$**		t$_i$	[t$_j$ one-CL skin]	= (22)
Grissom	BA$_k$	**orange$_i$**	t$_k$	peel	[t$_i$ (one-CL) skin]	= (16)

If what I have suggested above is on the right track, we should be able to find some structural differences between (19), on the one hand, and all the other constructions on the other hand. I will show that there are two properties that confirm the grouping in (45).

First, as noted in the literature (cf. Cheng and Ritter 1988, Yoon 1990 and Vermeulen 2005), in possessor raising constructions, the possessee only allows restrictive modifiers.[17] This is indeed true for possessor raising cases like the one in (17), as shown in (46).

(46)   a. Geruisen ba   **Sala** da-shang-le zou shou.
          Grissom BA   Sara   hit-hurt-ASP left hand
          'Grissom hit Sara on her left hand.'

---

[16] Sentence (24) (as well as (17) and (16)) will be discussed later in Section 3.4.
[17] In section 3.3.5, I will propose that the distinction is, in fact, not between restrictive and non-restrictive adjectives, but between full APs and incorporated adjectives. That is, the restriction I will propose is a syntactic/morphological restriction rather than a semantic one.

b. *Geruisen ba   Sala   da-shang-le   piaoliang-de   shou.
Grissom BA   Sara   hit-hurt-ASP   beautiful-DE   hand
'Grissom hit Sara on her beautiful hand.'

On the other hand, there is no such restriction in the pseudo-DOC (base-generation) construction, as shown in (47) (=(19)). Note that the order between the adjective and the numeral + classifier is changeable. (cf. Li and Thompson 1981)

(47)   a. Geruisen he-le   Sala   hen-gui-de   san-ping   jiu.
Grissom drink-ASP   Sara   very-expensive-DE three-CL   wine
'Grissom drank three very expensive bottles of wine on Sara.'
b. Geruisen he-le   Sala   san-ping   hen-gui-de   jiu.
Grissom drink-ASP   Sara   three-CL   very-expensive-DE wine

Importantly, the same restriction applies in all the other constructions for which I have suggested a possessor raising analysis. This is shown in (48).

(48)   Non-restrictive adjective
a. *Geruisen ba juzi   bo-le   hen-hou-de   pi   = (16)
Girissom BA orange peel-ASP   very-thick-DE skin
b. *Geruisen bo-le   juzi   hen-hou-de   yi-ceng pi   = (22)
Girissom peel-ASP   orange   very-thick-DE one-CL skin
c. *Geruisen da-shang-le   Sala piaoliang-de yi-zhi shou   = (21)
Grissom hit-hurt-ASP   Sara beautiful   one-CL hand

Furthermore, recall that there is a difference in the acceptability of a pronoun in NP3 in these two constructions. In a true pseudo-DOC such as (19), a possessive pronoun in NP3 is allowed. But such a pronoun is excluded in the BA construction in (17). The relevant examples are repeated here again as (49) and (50).

(49)   Geruisen he-le   Sala$_i$ (ta$_i$) san-ping jiu.   = (31)
Grissom drink-ASP Sara   she three-CL wine
'Grissom drank three bottles of wine on Sara.'

(50)   a. Geruisen ba   Sala$_i$ da-shang-le [$_{NP}$ (*ta$_i$) shou].   = (17)
Grissom BA Sara hit-hurt-ASP   he   hand
'Grissom hurt Sara's hand.'
b. *Geruisen ba juzi   bo-le   ta pi   = (16)
Girissom BA orange peel-ASP   it   skin
'Grissom peeled the skin of the orange.'

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Despite the fact that they occur in the order V-NP2-NP3, the examples in (21) and (22) pattern again with the BA construction, rather than with the true pseudo-DOC construction. That is, possessive pronouns are excluded in NP3 in all of these cases (cf. (51)).

(51)   Possessive Pronoun in NP3
      a. *Geruisen bo-le   juzi   ta yi-ceng pi   = (22)
         Girissom peel-ASP orange it   one-CL skin
      b. *Geruisen da-shang-le Sala ta yi-zhi shou   = (21)
         Grissom hit-hurt-ASP Sara she one-CL hand

To sum up, the differences between these two groups ((19) vs. (16)(17)(21)(22) in (45)) provide strong initial support my proposal that the difference between base-generation and possessor raising is determined by the semantic relation between NP2 and NP3, rather than by (in)animacy of NP2 or word order (pseudo-DOC order vs. BA). Explanations of the above differences (adjectives and possessive pronouns) will be given in Section 3.3.

3.3 Possessor Raising and Resumptive Pronouns[18]

In this section I will investigate the difference between restrictive/non-restrictive adjectives and the emergence of a possessive/resumptive pronoun in NP3. I will show that these phenomena provide strong empirical evidence for the existence of possessor raising in Chinese.

Recall that sentence (3), repeated here as (52), has been raised as a counterexample to the claim that possessor raising exists in Chinese.

(52)   ***Geruisen (de)$_i$** wo xihuan [t$_i$ baba].
      Grissom   DE I like   father
      'I like Grissom's father.'

                       (cf. Huang (1982): p516, footnote 4, ex (ii))

---

[18] A previous version of this section was presented at NELS 39, with Yi-An Lin.

However, the ungrammatical sentence (52) becomes well-formed when the noun phrase interpreted as the possessee of *Grissom* (i.e., the NP *father*) includes a pronoun co-referent with the possessor *Grissom*. This is shown in (53). I will argue that this construction is best analyzed as involving possessor raising and that the pronoun *ta* is a resumptive pronoun— that is, an overt realization of the trace of the moved possessor.

(53) **Geruisen$_i$** wo xihuan [ta$_i$ baba].
      Grissom   I   like   he father
      'I like Grissom's father.'

More precisely, I will argue that *ta* ('he') in (53) is a resumptive pronoun which is inserted as a Last Resort to satisfy a condition on PF realization of chains that I will propose. I argue that the insertion of resumptive pronouns is constrained by phases, which will provide new support for a cyclic spell-out model. Last, I show that the dsitribution of resumptive pronouns is a test that can distinguish the possessor raising account from the base-generation account.

3.3.1   A Spell-out Restriction of Possessor Chains

Though so far I have shown many cases which involve possessor raising, it is still a puzzle why example (52) is bad if possessor raising is involved in it. I propose that although possessor raising does exist in Chinese, it is not completely free. Specifically, I propose that possessor raising is subject to the restriction in (54), which states that a possessor raising chain has to be 'visible' at PF in each spell-out domain. In other words, in a possessor raising chain, an overt copy of the possessor is required in each spell-out domain to make the chain visible at the PF interface. I follow Chomsky (2001) in that *spell-out domain* is defined as the complement of a phase head or the root clause.

(54) PF-Chain Visibility Condition (CVC): At PF, a possessor raising chain has to be visible in each spell-out domain.[19]

Equipped with (54), let us return to the ungrammatical example in (52). The derivation of (52) is given in (55). Assuming that the ban on possessor raising in principle does not hold in Chinese, syntactically there is nothing wrong with a derivation involving possessor raising, as long as the movement does not violate any other locality conditions. I assume that movement is in general subject to the *Phase Impenetrability Condition* [PIC], hence possessor raising has to target the edge of the vP (vP being a phase) on its way to the TP-adjoined position.[20] Although the movement does not violate syntactic locality (an A'-movement crossing a A-argument), the derivation in (55) does violate the CVC. The lower spell-out domain is the VP (after v merges), and therefore, the two copies of the possessor raising chain end up in different spell-out domains. Since there is no overt realization of the possessor in the lower spell-out domain VP, the CVC is violated.

(55) *[$_{TP}$ **Geruisen**$_i$ [$_{TP}$ wo [$_{vP}$ t_i [$_{VP}$ xihuan [$_{NP}$ t_i baba]]]]. = (52)
  Grissom   I   like   father

Recall that possessor raising cases can also be found in subject and unaccusative postverbal NP, repeated here as (56).

(56) a. [$_{NP}$ **Geruisen**] (xianran) [$_{NP}$ baba] (xianran) xihuan Sala.
    Grissom   apparently   father   apparently like   Sara
   b. [$_{NP}$ **Geruisen**] (xianran) si-le   [$_{NP}$ baba].
    Grissom   apparently   die-ASP   father

The CVC proposal explains why possessor raising is possible in the above two contexts. First, possessor raising out of a subject, as shown in (57), does not violate the CVC. Assuming the

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[19] As suggested by Mamoru Saito (p.c.), Visibility in (54) could be tied to case marking. (54) would then be reformulated as follows: a possessor raising chain has to be case-marked in each spell-out domain. Assuming that *ta* comes with its own case, the conditions on when the resumptive pronoun emerges in the following discussion then follows. Note that only overt elements can be case-marked.

[20] I leave the nature of this movement open here. If this is topicalization, it would be a new option in addition to those discussed in Chapter 2, or perhaps this movement could be unified with TP recursion discussed below.

Spec of a recursive TP projection is available (following the proposal of possessor raising in subject position by Xu (2004-2005)), after possessor raising, the possessor is still in the same spell-out domain as its copy/trace. The CVC is obeyed, and therefore this sentence is acceptable.

(57)　[$_{TP}$ **Geruisen$_j$** [$_{TP}$ [$_{NP}$ **t$_j$** baba]$_i$　[$_{vP}$ t$_i$ [$_{VP}$ xihuan　Sara]]]].　= (56a)
　　　　Grissom　　　　　　　father　　　　　　　　like　　Sara

Next, we turn to the case of possessor raising out of an unaccusative postverbal NP as in (58). Following Chomsky's (2000) assumption that the vP phase is defective or does not exist at all with unaccusatives, after the possessor raises out of the NP in (58), both copies of the possessor raising chain are within the same spell-out domain, namely TP. The CVC is obeyed again, hence the sentence is grammatical.

(58)　[$_{TP}$ **Geruisen$_i$**　[$_{vP/VP}$ si-le　　[$_{NP}$ **t$_i$**　baba]]].　　　　= (56b)
　　　　Grissom　　　　　die-ASP　　　　　father

3.3.2　The Emergence of Resumptive Pronouns

Though there is a CVC constraint for possessor raising, I also propose that a violation of the CVC can be 'saved', as a Last Resort, by the insertion of a resumptive pronoun. Since the CVC is defined by phases, as a consequence, the emergence of resumptive pronouns is constrained by phases. I follow Hornstein (2000) who proposes that resumptive pronouns are (i) costly to use and (ii) not items of the lexical array—that is, resumptive pronouns are not in the numeration in the beginning of the derivation, but introduced later as a repair strategy.

Recall that in the previous section, we have argued that possessor raising out of a non-unaccusative object results in ungrammaticality due to a violation of the CVC. But as I noted above, a CVC violation can be saved by the insertion of a resumptive pronoun. Hence the prediction is that examples such as (52)/(55) should become grammatical when a

resumptive pronoun is added. This prediction is borne out, as shown in (59). To avoid a CVC violation, the lowest copy/trace of the possessor raising chain has to be made visible, which can only be achieved via the insertion of a resumptive pronoun. In these contexts, resumptive pronouns are therefore obligatory.

(59)   a. **Geruisen** wo xihuan **ta** baba.   = (53)
         Grissom I   like he father
       b. [$_{TP}$ **Geruisen**$_i$ [$_{TP}$ wo [$_{vP}$ **t**$_i$ [$_{VP}$ xihuan [$_{NP}$ **ta**$_i$ baba]]]].
         Grissom   I   like   he father

Following the same reasoning, resumptive pronouns should be impossible when possessor raising takes place out of an unaccusative subject. Since the copies of the possessor raising chain are within the same spell-out domain, insertion of a resumptive pronoun is not necessary, hence prohibited. This is shown in (60)[21].

(60)   a. %**Geruisen** si-le   **ta**   baba.
         Grissom die-ASP he   father
       b.*[$_{TP}$ **Geruisen**$_i$ [$_{vP/VP}$ si-le   [$_{NP}$ **ta**$_i$ baba]]].
         Grissom   die-ASP   he father

Before discussing how the CVC works with the possessor raising in the BA construction, I present one further piece of evidence for my approach. So far, I have only considered cases in which possessor raising targets a landing site within the TP or TP-adjoined domain. This is not always the case. As discussed in Chapter 2 (cf. Xu and Langendoen (1985), Tang (1990) and Shi (2000), among many others), topicalization is a common syntactic strategy in Chinese. Following the discussion in Section 2.8, I assume that topics can also target the Specifier position of CP.[22] If this is indeed an option, as I assume, my account makes the following prediction: once the possessor moves into the CP-domain, it

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[21] There seems to be some speaker variation regarding the judgment of this sentence. I provide an account of this variation below.
[22] But one can still easily translate the discussions below if one assumes TopP, rather than CP, as the landing site of the topic (see Chapter 2).

moves across another phase head (C), and hence the lower copy of the possessor raising chain will end up in a different spell-out domain from the higher copy. Resumptive pronouns should then become possible, in fact necessary. This is illustrated schematically in (61). If there is a copy/trace in the TP domain, and the possessor has moved across the C head to Spec CP, in order to avoid a CVC violation, the copy/trace in the TP domain has to be realized as a resumptive pronoun *ta* ('he').

(61) [$_{CP}$ possessor C [$_{TP}$ ... t$_{possessor}$ ...]

                           └──────▶ *ta*
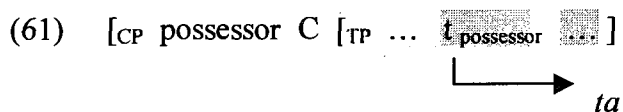
The prediction is borne out, as shown in the examples (62) - (64). In both (62) and (63), the possessor moves further from the TP domain to the CP domain. Evidence for this movement comes from intonation. If there is a pause between the possessor and the possessee, as is common with topicalization, a resumptive pronoun is required, exactly as predicted by my account.

(62) a. **Geruisen, ta**   baba   xihuan   Sala.   (subject)
          Grissom   he   father   like   Sara
     b. [$_{CP}$ **Geruisen**$_j$ [$_{TP}$ [$_{NP}$ **ta**$_j$ baba]$_i$ [$_{vP}$ t$_i$ [$_{VP}$ xihuan   Sala]]]].
          Grissom   he   father   like   Sara

(63) a. **Geruisen, ta** si-le   baba.   (unaccusative NP)
          Grissom   he die-ASP father
     b. [$_{CP}$ **Geruisen**$_i$ [$_{TP}$ **ta**$_i$ [$_{vP/VP}$ si-le   [$_{NP}$ t$_i$ baba]]]].
          Grissom   he   die-ASP   father

The option of movement to Spec CP also allows us to explain speaker variation encountered regarding example (60a), repeated as (64a). I propose that (64a) can have either the structure in (64b) (repeated from (60b)), which disallows resumptive pronoun insertion, or the structure in (64c), which requires resumptive pronoun insertion. That is, for speakers who judge this sentence as grammatical, I suggest that the possessor raises from the post-verbal

object NP to Spec CP directly (this is in accordance with the PIC, since this is an unaccusative context, and hence no phase boundaries are crossed). Since the lower copy of the possessor is then in a different spell-out domain from the higher copy, a resumptive pronoun has to be inserted.[23]

(64) a. %Geruisen si-le ta baba. (unaccusative NP)
Grissom die-ASP he father
b. *[TP **Geruisen**$_i$ [vP/VP si-le [DP **ta**$_i$ **baba**]]].
Grissom die-ASP he father
c. [CP **Geruisen**$_i$ [TP [vP/VP si-le [NP **ta**$_i$ **baba**]]]].
Grissom die-ASP he father

In sum, I have argued for a well-formedness condition on the realization of chains at PF, which correctly predicts the distribution of *ta* in NPs associated with a dislocated possessor. While all of the examples above could, in principle, also be analyzed as involving base-generation of the possessor in an NP-external position, such an account would leave the distribution of *ta*, in particular the question of why *ta* is required in some cases and prohibited in others, unaccounted for.

3.3.3 The distribution of 'ta' as evidence for possessor raising

Now let us return to the following paradigm, where a possessive pronoun is allowed in the pseudo-DOC in (65b), but prohibited in the BA construction in (65a).

(65) a. Geruisen ba Sala$_i$ da-shang-le [NP (*ta$_i$) shou]. = (50a)
Grissom BA Sara hit-hurt-ASP he hand
b. Geruisen he-le Sala$_i$ (ta$_i$) san-ping jiu. = (49)
Grissom drink-ASP Sara she three-CL wine
'Grissom drank three bottles of wine on Sara.'

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[23] Alternatively, it can be assumed that (64a) involves the same derivation as (63b) (i.e. movement to Spec TP always occurs), and that some speakers allow either the higher copy of the moved possessor (the copy in Spec TP) or the lower copy (the copy in the post-verbal NP) to be pronounced as a resumptive pronoun. Since either choice satisfies the CVC, both options should be available, unless there is a preference for pronunciation of the highest copy, which would be the case for speakers who judge (64a) as ungrammatical.

There are two questions to address: i) is 'ta' in (65b) a possessive or a resumptive pronoun and ii) why is neither a possessive nor a resumptive pronoun possible in (65a)? The first question receives a straightforward answer under the assumption (following Huang) that the NP *Sara* in (65b) is base-generated outside the noun phrase *three bottles of wine*. Since the latter NP has room for its own possessor, *ta* is a true possessive pronoun, which can co-occur with *Sara* (even in the case where *Sara* is interpreted as the possessor of the wine, which, as mentioned above is not a necessary relation). Question ii) is the more interesting question. If, as argued by Huang, both constructions in (65) were to involve base-generation of *Sarah* outside the direct object NP, both constructions should allow a possessive pronoun. However, this is not the case. Under the current account, this difference follows. First, true possessive pronouns are impossible in the BA construction in (65a), since the possessor position is already taken up by the moved possessor (there can only be one possessor per noun phrase). Second, looking at the structure of (65a) in (66), we see that a resumptive pronoun is also excluded.

(66)   a. *Geruisen   ba   **Sala**$_i$ da-shang-le [$_{NP}$ **ta**$_i$ shou].   = (65a)
        Grissom   BA   Sara   hit-hurt-ASP   she   hand
     b. *[$_{TP}$ Geruisen [$_{vP}$ ba   [$_{vP}$ **Sala**$_i$ [$_{vP}$ da-shang-le [$_{NP}$ **ta**$_i$ shou]]]]].
         Grissom   BA   Sara   hit-hurt-ASP   she   hand

Recall that I adopt Sybesma's (1999) proposal that BA (moved from Appl) is in the higher *v* position of a recursive *v*P. I also assume that only the highest *v* is a phase head (i.e., the lower *v*P+VP constitutes a *single* spell-out domain). Hence in (66), both copies of the possessor raising chain are within the lower *v*P+VP spell-out domain. Given the Last Resort nature of resumptive pronoun insertion, my analysis then correctly predicts that a resumptive pronoun is impossible since the CVC is not violated. Since the insertion of a resumptive pronoun is costly, it is prohibited here.

Further evidence comes from constructions where the possessor in (65a) undergoes further movement to Spec, CP (cf. (61)). As predicted by the current account, in that case, the CVC would be violated since the higher copy of the possessor would end up in a different spell-out domain from the lower copy, hence a resumptive pronoun becomes obligatory again.

(67) a. **Sala,** Geruisen ba **ta** da-shang-le shou.
       Sara Grissom BA she hit-hurt-ASP hand
    b. [CP **Sala**$_i$ [TP Geruisen [vP ba [vP **ta**$_i$ [VP da-shang-le [NP t$_i$ shou]]].
       Sara   Grissom   BA   she   hit-hurt–ASP   hand

Lastly, returning to examples such as (28), repeated here as (68), I have argued that these examples can only be accounted for by possessor raising. This predicts again that a pronoun (whether resumptive or possessive) is impossible. This prediction is borne out below.

(68) a. Geruisen ba Nike (?*ta) taitai da-shang-le (*ta) shou.
      Grissom BA Nick   he wife hit-hurt-ASP she hand
      'Grissom hurt Nick's wife's hand.'
    b. [TP Geruisen [vP ba [vP **Nike**$_i$ [vP [(?*ta$_i$) taitai]$_j$ [VP da-shang-le
      Grissom   BA   Nick   he wife   hit-hurt-ASP
    [NP(***ta)**$_j$ shou]]]]].
    she   hand

In sum, the CVC account provides an interesting new way to distinguish between the pseudo-DOC and the BA construction, or more generally, between base-generation and possessor raising. As we have seen in (65a), resumptive pronouns are excluded in the BA construction (unless the possessor undergoes further movement). This follows from the costliness of resumptive pronoun insertion. Possessive pronouns are also impossible since the possessor position is occupied by another element. In the (true) pseudo-DOC construction, resumptive pronouns are impossible because no movement has occurred. But a possessive pronoun is still optionally allowed since the possessor position inside the NP is available, as illustrated in (65b).

3.3.4 A Note on the CVC

Before proceeding to next section, I would like to offer some speculations about the broader applicability of the CVC. Note that I have defined the visibility condition in (54) only for possessor raising in Chinese. A valid question one might raise at this point is whether this condition is indeed only in effect for possessor raising, a certain type of movement, or whether it can be extended to other movements in Chinese as well. If the spell-out restriction is a general condition on copy pronunciation in Chinese, we would expect resumptive pronouns in other types of movement constructions as well. While, as I will show momentarily, there is some initial support for a more general applicability of the CVC in Chinese, certain questions remain which I have to leave for future research. [24]

Let us look at some basic cases of topicalization in Chinese. First, as predicted by the current analysis, BA topics (see Tsao 1986 and Kuo 2007) cannot co-occur with a resumptive pronoun. As shown in (69), the entire movement chain is within the same spell-out domain, hence a resumptive pronoun is prohibited by Last Resort.

(69)　BA NP
[TP Geruisen [vP ba [vP **zhe-ben　shu**　kan-wan-le　(*ta)]]].
　　Grissom　　BA　　this-CL　book　read-finish-ASP　it
　　'Grissom finished reading this book.'

Second, external and internal topicalization, as illustrated in (70) and (71) respectively, do allow resumptive pronouns. Since in both constructions, the lower copy of the moved topic is in a separate spell-out domain, resumptive pronouns would be expected if PF chains were generally subject to the CVC. [25]

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[24] I also have to set aside here the question of whether the CVC is a language-specific property of Chinese or whether it can be extended to other languages as well.

[25] Recall that there is speaker variation with respect to the acceptance of resumptive pronouns co-indexed with non-human objects (Chapter 2). Here the judgments come from those speakers who accept them.

(70) External Topic
[CP **Zhe-ben shu**, [TP Geruisen [vP [VP kan-wan-le (ta)]]]].
    this-CL book   Grissom   read-finish-ASP it
'Grissom finished reading this book.'

(71) Internal Topic
[TP Geruisen **zhe-ben shu** [vP [VP kan-wan-le (ta)]]].
    Grissom   this-CL book   read-finish-ASP it
'Grissom finished reading this book.'

However, in contrast to the possessor raising and the BA construction cases discussed in this section, and contrary to what we would expect if the CVC were to apply to movement chains in general, resumptive pronouns are not obligatory in (70) and (71). One way to account for the optionality would be to assume that the examples in (70) and (71) are in fact structurally ambiguous (cf. Chapter 2 for the discussion of Topic formation in Chinese). One structure is derived by topic movement as illustrated in (70) and (71), in which case the CVC requires the presence of *ta*. The second option is a base-generated topic structure (like the Hanging topic in Chapter 1 and 2), in which the topic is associated with a (silent) *pro* in the object position. If these two options can be maintained, the optionality of resumptive pronoun insertion in (70) and (71) is only apparent, and the CVC may be extendable to chains in general. The remaining problem would be to make sure that the base-generation option is not available for the possessor raising constructions discussed in previous discussion. I leave examining the relevant distinction between possessor raising and topic movement for future research.

3.3.5   The Distribution of Adjectives in Possessor Raising Contexts

Let us return to the distribution of restrictive/non-restrictive adjectives in the pseudo-DOC and BA constructions. The main difference is repeated here in (72) and (73). Recall that only non-restrictive adjectives are allowed in possessor raising cases.

(72) a. Geruisen ba   Sala   da-shang-le   [zuo [shou]].
         Grissom   BA   Sara   hit-hurt-ASP   left   hand
         'Grissom hit Sara on her left hand.'
      b. *Geruisen ba   Sala   da-shang-le   [piaoliang-de [shou]].
         Grissom   BA   Sara   hit-hurt-AS   beautiful-DE   hand
         'Grissom hit Sara on her beautiful hand.'

(73) a. Geruisen he-le   Sala [hen-gui-de   [san-ping [jiu]]].
         Grissom   drink-ASP Sara   very-expensive-DE   three-CL   wine
         'Grissom drank three very expensive bottles of wine on Sara.'
      b. Geruisen he-le   Sala [san-ping [hen-gui-de   [jiu]]].
         Grissom drink-ASP   Sara   three-CL   very-expensive-DE   wine

Interestingly, the insertion of resumptive pronouns reverses the grammaticality judgments in (72). This is shown in (74).[26]

(74) a. Geruisen ba   Sala   da-shang-le   [(*ta) zuo [shou]].
         Grissom   BA   Sara   hit-hurt-ASP   she   left   hand
         'Grissom hit Sara on her left hand.'
      b. Geruisen ba   Sala   da-shang-le   [*(ta) piaoliang-de [shou]].
         Grissom   BA   Sara   hit-hurt-ASP   she   beautiful-DE   hand
         'Grissom hit Sara on her beautiful hand.'

Furthermore, notice that the presence of a numeral also renders examples with possessor raising and a non-restrictive adjective grammatical.

(75)   Geruisen ba Sala chexia-le wu-shu piaoliang-de toufa.
       Grissom BA Sara pull-ASP five-CL beautiful-DE hair
       'Grissom pulled five strings of Sara's beautiful hair.'

Note that there is no difference in the interpretation of the adjective *beautiful* in the examples above (that is, the adjective is interpreted as a non-restrictive adjective in all of (72b), (74b), and (75)). The fact that examples such as (72b)/(74b) are grammatical once a resumptive pronoun is added allows us to draw some immediate conclusions. Assuming that the account

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[26] For the insertion of possessive pronouns in examples in (74b), see the discussion in examples in (93).

of resumptive pronouns provided in the Section 3.3.1 is correct, we can conclude that syntactically, non-restrictive adjectives do not block possessor raising. That is, a noun phrase including a non-restrictive adjective must still be transparent for possessor raising. Second, the acceptability of (74b) and (75) also shows that there cannot be a semantic restriction against possessor raising from a noun phrase with a non-restrictive adjective. An account such as the one provided by Yoon (1990), for instance, according to which inalienable nominals are semantically incompatible with non-restrictive adjectives, then cannot be maintained.

To account for the distribution of adjectives and resumptive pronouns, we need to first lay out some basic assumptions about adjectives and Chinese noun phrase structure.

Let me start with adjectives. On closer examination, the difference between (72a) and (72b) does not seem to correlate with whether the adjective is interpreted restrictively or non-restrictively. For instance, in a situation where *Sara* has only one beautiful hand (the other hand is, for some, reason, not beautiful), the sentence in (72b) is still ungrammatical, unless a resumptive pronoun is added.

What could then be the difference between the two types of adjectives? I propose that what is responsible for the above distinction is that there are two syntactic types of adjectives in Chinese—full APs (marked with *-de*) and compound adjectives (similar to examples such as *left-hand, blackboard* in English) (cf. Paul 2003). I take the presence of the marker *-de* to indicate that adjectives are full XPs adjoined to a nominal projection within the noun phrase (see below for details about the noun phrase structure in Chinese). Adjectives without *-de*, on the other hand, are part of the head noun (e.g., they form a lexical compound). Evidence for this structural distinction between the two types of adjectives comes from (76), (77) and (78).

First, as shown in (76), adjectives with *–de* (full APs) have to be higher than adjectives

without *–de* (compound adjectives). Second, compound adjectives have to be lower than

numerals, whereas full APs can occur either lower or higher than a numeral, as shown in (77).

Third, these two types of adjectives also behave differently under ellipsis: as shown in (76),

adjectives marked with *-de* can be stranded in ellipsis (since they are full APs), but adjectives

without *-de* cannot be (since they are compounds they cannot appear without the noun).[27]

(76) a. [piaoliang-de [zuo shou]]
       beautiful-DE left hand
       'beautiful left hand'
    b. *[zuo [piaoliang-de shou]]
       left   beautiful-DE hand

(77) a. [yi-zhi [zuo shou]]
       one-CL left hand
       'one left hand'
    b. *[zuo [yi-zhi [shou]]]
       left one-CL hand
    c. [yi-zhi [piaoliang-de [shou]]]
       one-CL beautiful-DE hand
       'one beautiful hand'
    d. [piaoliang-de [yi-zhi [shou]]]
       beautiful-DE one-CL hand

(78) a. Geruisen xihuan congmin-de nusheng, bu xihuan piaoliang-de.
       Grissom like   smart-DE girl   not like beautiful-DE
       'Grissom likes smarts girls, but not beautiful ones.'

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[27] The Korean examples given in Yoon (1990) seem to show the same paradigm. Apparent non-restrictive modification is not allowed in possessor raising contexts, while restrictive modifiers are possible.

(i)   *?John-un Mary-lul   yeppun son-ul   capassta.
          TOP   ACC pretty hand-ACC caught
(ii)   John-un Mary-lul   oyn son-ul   capassta.
         TOP   ACC left hand-ACC caught
However, the adjective 'left' in (ii) also behaves like a compound adjective, as shown by the following contrast.
(iii) *Na-nun oreun-son-lul   johahan-ta, oyn-i   anira
        I-TOP right-hand-ACC like-DECL, left-NOM not.be
        'I like right hand, not left hand.'
(iv) Na-nun oreun-jjot   son-lul   johahan-ta oyn-jjot-i   anila
        I-TOP right-Direction hand-ACC like-DECL left-Direction-NOM not.be
The adjective 'beautiful' does not have this restriction, as shown in (v).
(v)   Na-nun pissan   cigap-lul coha-han-ta, areumdaun keot-i-anira.
       I-top expensivve purse-acc like-do-decl, beautiful   one-cop-not
       'I like expensive purses, not beautiful ones.'

b. *Geruisen xihuan yong you shou, bu xihuan yong zou.
Grissom like use right hand not like use left
'Grissom likes to use his right hand, but not his left hand.'

The claim that adjectives without -de are part of a complex head with the noun immediately explains why they do not interfere with possessor raising. As shown in (79), the possessor starts out at the edge of the noun phrase (see below for a detailed analysis of the Chinese NP-structure), from where it can undergo possessor raising. Compound adjectives will not interfere with the movement of the possessor since, by being part of the head noun, they are lower than the possessor. Furthermore, a resumptive pronoun is not allowed because the possessor and its trace are in the same spell-out domain (even if the NP is a phase, the lower copy of the possessor will be in the highest specifier of the NP, and therefore in the same spell-out domain as the higher copy of the possessor). This is illustrated in (80).

(79) Geruisen ba Sala$_i$ da-shang-le [$_{NP}$ t$_{Possi}$ zuo shou]].
      Grissom BA Sara hit-hurt-ASP   left hand
      'Grissom hit Sara on her left hand.'

(80) a. Geruisen ba   Sala$_i$ da-shang-le [$_{NP}$ t$_i$ zuo shou]]. = (72a)
         Grissom   BA   Sara   hit-hurt-ASP   left hand

      b. Geruisen ba   Sala$_i$ da-shang-le [$_{NP}$ (*ta$_i$) zuo shou]]. = (74a)
         Grissom   BA   Sara   hit-hurt-ASP   she left hand

Let us now turn to adjectives marked with –de (phrasal APs). I follow the proposal in Li and Thompson (1981) who observe that adjectives in Chinese can be used as the main predicate of a clause; that is, in contrast to English, a 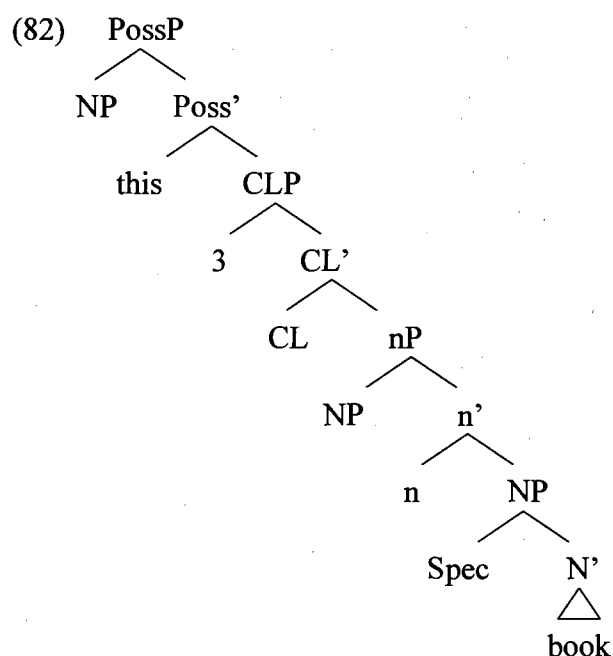copula is not required. This is shown in (81a). When the adjective occurs within an NP as in (81b), it must appear with the –de marker.

(81) a. Zhege nansheng hen shuai.
         this-CL boy   very handsome
         'This boy is very handsome.'
      b. [hen shuai]-de   zhege   nansheng
         very handsome-DE this-CL boy
         'the boy who is very handsome'

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I follow Sproat & Shih (1988)/(1991) and Duanmu (1998)'s proposal that examples with an NP-internal phrasal adjective, such as (81b), involve a relative clause structure (see below for relevant structure and discussion).

Before discussing further details of the distribution of adjectival CPs within a noun phrase, it is necessary to lay out the basic structure I assume for noun phrases in Chinese. The full structure (ignoring APs for now) is given in (82).

(82)
```
       PossP
       /\
     NP  Poss'
          /\
       this  CLP
              /\
            3   CL'
                 /\
               CL   nP
                     /\
                   NP  n'
                        /\
                      n   NP
                           /\
                         Spec  N'
                               /\
                              book
```

To facilitate the following discussion, some assumptions have to be made regarding the structure in (82): First, I assume that noun phrases in Chinese have the following structural hierarchy: PossP > Num+Cl > nP > NP (cf. Cheng and Sybesma 1999, Li 1999 and many others). I adopt Cheng and Sybesma's (1999) and Saito et al.'s (2008) proposal that in Chinese, Numerals are in Spec, ClP, and the Classifier is in the head position of ClP. Second, I assume that the possessor theta-role can be assigned by either the *n* or the Poss head. As a result, possessive NPs can be merged in either Spec, nP or Spec, PossP. Third, following Hsieh (2005) and Tang (2007), I assume that adjectival relative clauses are adjoined to either

*n*P or PossP. Lastly, I propose that the contextual marker *-de* is attached to XPs in Spec, *n*P and Spec, PossP, as well as to XPs adjoined to *n*P and PossP. Given that all NP and AP modifiers, independently of which order they occur in, are marked with *-de* in Chinese, this assumption is justified.

In what follows, I will discuss various word order options and restrictions within the noun phrase and show how the above assumptions account for these facts. First, as shown in (83), possessive NPs can occur before the demonstrative (which I assume is located in the Poss head) or after the classifier. Given the structure in (82), these positions are Spec, PossP and Spec, *n*P, respectively. Second, as shown in (84), adjectival relative clauses are also possible either before the demonstrative or after the classifier, which is also expected under the current analysis.

(83) {Geruisen-de} zhe {*?Geruisen-de} san-ben {Geruisen-de} shu
     Grissom-DE this   Grissom-DE   three-CL Grissom-DE book

(84) {hen-gui-de}   zhe {*?hen-gui-de}   san-ben {hen-gui-de}
     very-expensive-DE this   very-expensive-DE three-CL very-expensive-DE
     shu
     book

In contrast to possessive NPs, I have proposed that adjectival relative clauses are adjoined to PossP and *n*P. Evidence for this distinction is provided by the paradigm in (85). Recall that in Chapter 2, I argued that Chinese does not allow multiple specifiers. Assuming this is correct, the fact that an adjectival relative clause can co-occur with a possessive NP before the demonstrative (cf. (85)) shows that these categories do not target the same position. Moreover, note that both an adjectival relative clause and a possessive NP are only possible before the demonstrative if the former precedes the latter. This follows, if adjectival relative clauses are adjoined to PossP, whereas possessive NPs can only be merged in Spec, PossP.

(85)　a. *?Geruisen-de　hen-gui-de　　　zhe　san-ben shu
　　　　　　Grissom-DE　very-expensive-DE this three-CL books
　　　b. ?Hen-gui-de　　　　Geruisen-de zhe san-ben　shu
　　　　　very-expensive-DE Grissom-DE this three-CL books
　　　c. Geruisen-de　zhe san-ben　hen-gui-de　　　shu
　　　　　Grissom-DE this three-CL very-expensive-DE book
　　　d. hen-gui-de　　　zhe san-ben Geruisen-de shu
　　　　　very-expensive-DE this three-CL Grissom-DE book

As for (85c), the adjectival relative clause adjoins to nP and the possessive NP is merged in Spec, PossP. Finally, (85d) is possible, since the possessive NP is merged in Spec,nP and the adjectival relative clause is adjoined to PossP.

Now let us examine the distribution of adjectival relative clauses and possessive NPs under a classifier. The relevant paradigm is given in (86).

(86)　a. *?zhe san-ben　Geruisen-de　hen-gui-de　　　shu
　　　　　this three-CL Grissom-DE very-expensive-DE book
　　　b. ?zhe san-ben　hen-gui-de　　　Geruisen-de shu
　　　　　this three-CL very-expensive-DE Grissom-DE book

The ungrammaticality of (86a) is again predicted by the assumptions made above, since the possessive NP can only be merged in the specifier of nP, whereas the adjectival relative clause is adjoined to nP (this would yield the order in (86b)). The order in (86a) cannot be generated.[28]

Having introduced the NP structure and the distribution of APs and Possessors, let us now examine the different scenarios for possessor raising. First, in a typical sentence like (87), which does not involve adjectives and numerals, possessor raising is possible and a resumptive pronoun is excluded.

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[28] There is a preference in both (85) and (86) for *Grissom* to be interpreted as an Agent it is lower than the adjectival relative clause (but the possessor reading is still available). I leave this phenomenon for further research. Note that I assume that the Agent reading is obtained in Spec, nP (possibly even a lower position), which accounts for the fact that this reading is not available in (85b,c) when *Grissom* cannot be located in Spec, PossP.

(87) a. Geruisen ba Sala$_i$ da-shang-le [t$_i$ shou].   = (17)
         Grissom BA Sala hit-hurt-ASP   hand
         'Grissom hurt Sara's hand.'
      b. *Geruisen ba Sala$_i$ da-shang-le [ta$_i$ shou].
         Grissom BA Sala hit-hurt-ASP she   hand

I assume, following Bošković (1997: 33) and references there, a principle of Structural Economy which states that functional projections are only merged when required. The effect of this principle is that the relevant phrase in examples such as (87) can be a simple *n*P. Based on (82), I assume that the possessive NP *Sara* is merged and assigned a possessor theta-role in Spec, *n*P. The structure of the nominal domain in (87) is illustrated in (88). Turning to possessor raising, I assume that movement is subject to the PIC of Chomsky (2001): In a phase α with a head H, the domain of H is not accessible to operations outside α, only H and its edge (=specifiers/adjuncts) are accessible to such operations. Lastly, I follow Bošković (2005), Lee-Schoenfeld (2008) and Heck, Müller, and Trommer (2008) in the assumption that noun phrases are phases.[29] Since the possessor in (88) is at the edge of the nominal domain, movement out of the noun phrase is possible. Furthermore, the CVC is not violated, since the possessor and its copy/trace are in the same spell-out domain. Thus, no resumptive pronoun can be inserted.
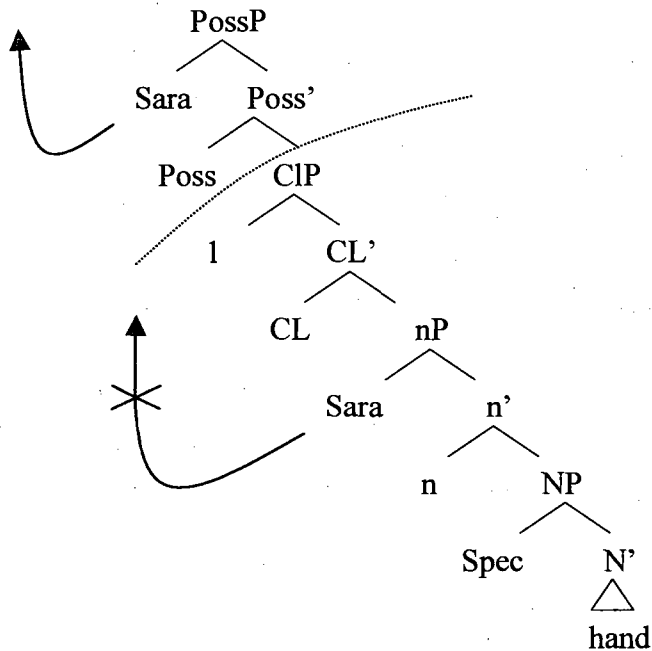
(88)   no AP, no Num:

---
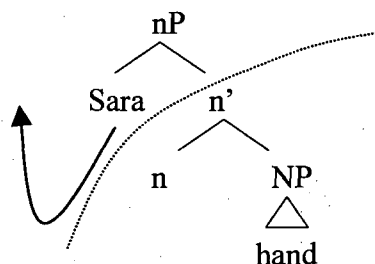
[29] To be more specific, I assume that the highest projection of the nominal domain constitutes a phase. This also follows under Bobaljik and Wurmbrand's (2005) assumption that the complement of a lexical verb, whatever its category, is a phase.

The second construction to consider is a noun phrase with a numeral and a classifier. This is illustrated in (89), and as shown in (89), the insertion of a resumptive pronoun is again impossible.

(89) a. Geruisen ba Sala$_i$ da-shang-le [t$_i$ yi-zhi shou].   = (43a)
         Grissom BA Sala hit-hurt-ASP   one-CL hand
         'Grissom hurt Sara's hand.'
     b. *Geruisen ba Sala$_i$ da-shang-le [ta$_i$ yi-zhi   shou].
         Grissom BA Sala hit-hurt-ASP she one-CL hand

Given the structure in (82), there are two possible positions in which the NP *Sara* could be merged in principle: First, the possessive NP can be merged and assigned a possessor theta-role in Spec, *n*P. If the possessor gets a theta role in Spec, *n*P, the projection of PossP would be unmotivated so the whole noun phrase would be ClP. ClP would be a phase, and since its Spec is filled and multiple Specs are not possible, the possessor could not move out of ClP due to the PIC. On the other hand, the possessive NP can be merged and assigned a theta-role in Spec, PossP. Since in this position, the Possessor is at the edge of the nominal domain, possessor raising is possible and no CVC problem arises (i.e. there is no need to insert a resumptive pronoun). The two derivations are shown in (90).

(90)   no AP, but Num+Cl:

```
              PossP
              /    \
          Sara     Poss'
                   /    \
               Poss      ClP
                        /   \
                       1     CL'
                            /   \
                          CL     nP
                                /    \
                            Sara      n'
                                     /   \
                                    n     NP
                                         /   \
                                      Spec    N'
                                              △
                                             hand
```

The third construction relevant for possessor raising involves noun phrases which contain both a numeral plus classifier and a phrasal adjective. As shown in (91), possessor raising is possible in that context, and a resumptive pronoun is again impossible.

(91)   Geruisen ba Sala   chexia-le   (*?ta) wu-shu piaoliang-de toufa. = (75)
       Grissom BA Sara   pull-ASP   she   five-CL beautiful-DE hair
       'Grissom pulled five strings of Sara's beautiful hair.'

(92)
```
          PossP
          /    \
      Sara      ClP
               /   \
              5     CL'
                   /   \
                 CL     nP
                       /    \
                 beautiful   nP
                            /   \
                          -de    NP
                                 △
                                hair
```

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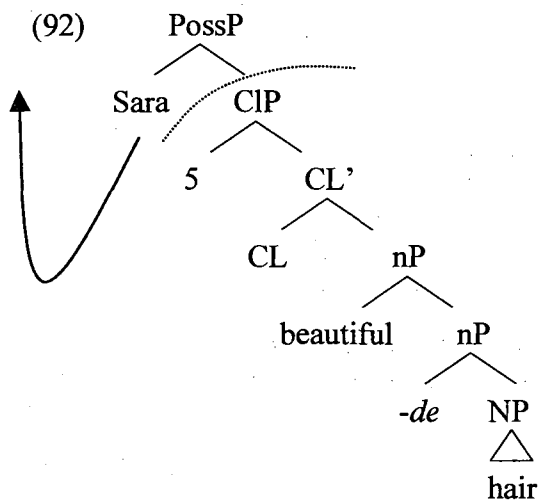
The structure suggested above again straightforwardly accounts for this case as well. As in (90), the NP *Sara* is merged in Spec, PossP, where it gets the possessor theta-role. Since the possessor is at the edge of a phase, it can undergo possessor raising without violating the CVC. The adjectival relative clause is adjoined to *n*P, hence does not interfere with the possessor.

One case that the current analysis cannot account for without further assumptions are sentences such as (93) with only an adjectival relative clause inside the nominal domain. As noted above, the insertion of a resumptive pronoun is obligatorily.

(93)   Geruisen ba Sala   da-shang-le   [*(ta) piaoliang-de [shou]]. = (74b)
       Grissom   BA Sara   hit-hurt-ASP   she beautiful-DE   hand
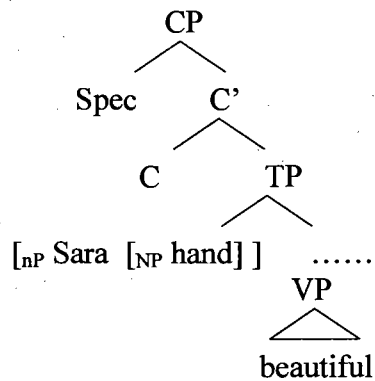   'Grissom hit Sara on her beautiful hand.'

Although I do not have a full account of this example, I would like to make a preliminary suggestion regarding this example. Further research will be conducted in the future to determine whether this account is on the right track. The fact that a resumptive pronoun is required in example (93) is highly reminiscent of other island saving resumptive pronouns in relative clauses. As shown in (94), operator movement in the BEI construction is not possible from within a relative clause; the structure is possible, however, when a resumptive pronoun is added.

(94)   Zhangsan bei wo tongzhi Lisi ba [$_{NP}$ zanmei *(ta) de shu] dou mei-zou-le.
       Z.   BEI I inform L.   BA praise   (hin) DE book all buy-away-ASP
       'Zhangsan had me inform Lisi to buy up all the books that praise [him].'
                                                              (Huang 1998: 16)
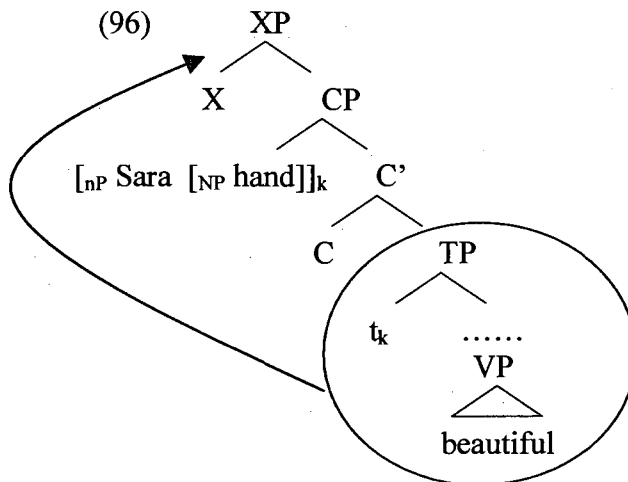
My suggestion is that in (93) we are dealing with an island-saving resumptive pronoun, like the one in (94), not a CVC-motivated resumptive pronoun. Recall that I adopt a relative clause analysis for full adjectives. To be more specific, I assume a raising analysis of

relatives, along the lines of Simpson and Wu (1998). First, we have a structure like the one in (95).

(95) Adjectival relative:

```
                    CP
                   /  \
              Spec      C'
                       /  \
                      C    TP
                          /  \
       [nP Sara [NP hand] ]    ......
                               VP
                              /__\
                            beautiful
```

The whole *n*P in Spec, TP will raise to Spec, CP, while is followed by remnant TP movement to an adjoined position, as shown in (96).[30]

(96)
```
              XP
             /  \
            X    CP
                /  \
 [nP Sara [NP hand]]k    C'
                        /  \
                       C    TP
                           /  \
                         tk    ......
                               VP
                              /__\
                            beautiful
```

After the relative TP undergoes adjunction, the possessor raises to the clausal domain. The trace/copy of the possessor within the raised TP is realized as an island saving resumptive pronoun (like the one in (94)). I assume that the system picks the first (linearly) copy it finds

---

[30] Recall that adjectives are either *n*P or PossP adjoined. I simply represent here the relevant projection as XP.

to realize in PF. Note that the resumptive and the adjective are a constituent on this analysis. This is shown in (97).[31]

(97)
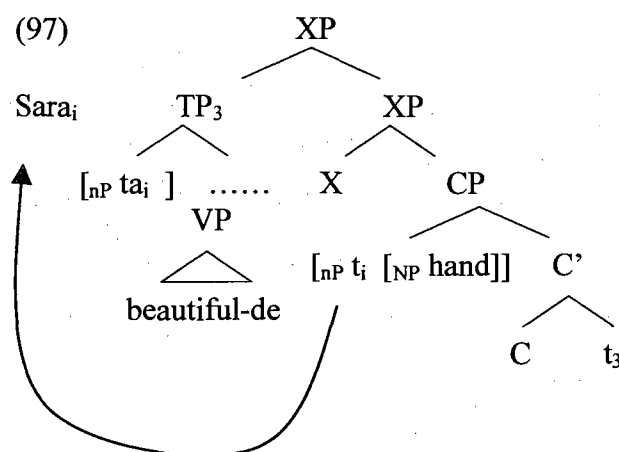
To account for the obligatoriness of the resumptive in (93) we need to assume that in this kind of raising examples, the above derivation is the only possibility. That is, the possessor in such examples cannot be base-generated in Spec, PossP outside the adjective relative clause. However, since further research is needed regarding the proposals made above for example (93), in the discussion below I will not rely on the structure of relative clauses proposed above for (93).

Before closing, one final case needs to be mentioned. Interestingly, as pointed out by Cheng and Ritter (1988), there are no possessor raising cases out of definite NPs. This is shown in (98).

(98)   *Wo ba zhi-men   ti-le   na-ge   dong.
         I   BA paper-door kick-ASP this-CL hole
         'I kicked that hole in the paper door.'   (Cheng and Ritter 1988: 69)

Possessor raising under the disguise of V-NP2-NP3 does not allow definite NPs either.

---

[31] As we will see in Chapter 4, I will argue that the Proper Binding Condition is active in Chinese. However, I also assume that not all movements are subject to it (this, e.g. clearly has to be the case like *v*P fronting in English). Hence here I also assume that remnant TP fronting is not subject to the PBC. But this may actually not be necessary if the element in Spec, TP is replaced by the resumptive pronoun.

(99)   *Geruisen po-le   juzi   zhe-ceng pi.
        Grissom peel-ASP orange this-CL   skin
        'Grissom peeled the skin of the orange.'

Under the current analysis, one might expect possessor raising to be possible since the demonstrative is inserted in the Poss head and the possessor could be in Spec, PossP (whether base-generated or moved there). Possessor raising would hence not violate the PIC. Since the possessor here crosses the demonstrative, I will simply assume that we are dealing here with a Specificity effect, which is independent from the issues I am concerned with here (and may in fact follow from semantic considerations).

Lastly, let us return to the pseudo-DOC construction, which is not subject to the adjective restriction discussed above. This follows under the current account, since there is no possessor raising in (true) pseudo-DOC constructions, hence adjectives will not interfere with the possessor. As shown in (100), a possessive pronoun (*ta* is not a resumptive pronoun here at all) can optionally occur in this construction. Since the relative clause is adjoined to *n*P, the higher possessor position (Spec, PossP) is available for a possessive pronoun.[32]

(100)   Geruisen he-le   Sala   [(ta) san-ping [hen-gui-de   [jiu]]].
        Grissom drink-ASP Sara   she three-CL very-expensive-DE   wine

Under the current analysis, since there is no movement involved in pseudo-DOC constructions, the occurrence of these possessive pronouns is expected.

---

[32] It is also possible for the adjective to appear before the numeral (and after the possessive pronoun). That is, we can also have *ta hen-gui-de san-ping jiu* ('her very expensive three bottles of wine'). But this sequence should be excluded because of the ungrammatical (85a) [Grissom-Adj-this-ClP]. Notice that a demonstrative is present in (85a). Without the demonstrative, the sequence [Possessor-Adj-ClP] seems to be independently acceptable, as shown in (i).

    (i)   Wo tou-le   [Geruisen-de hen-gui-de   san-ben shu].
            I   steal-ASP Grissom-DE very-expensive-DE 3-CL books
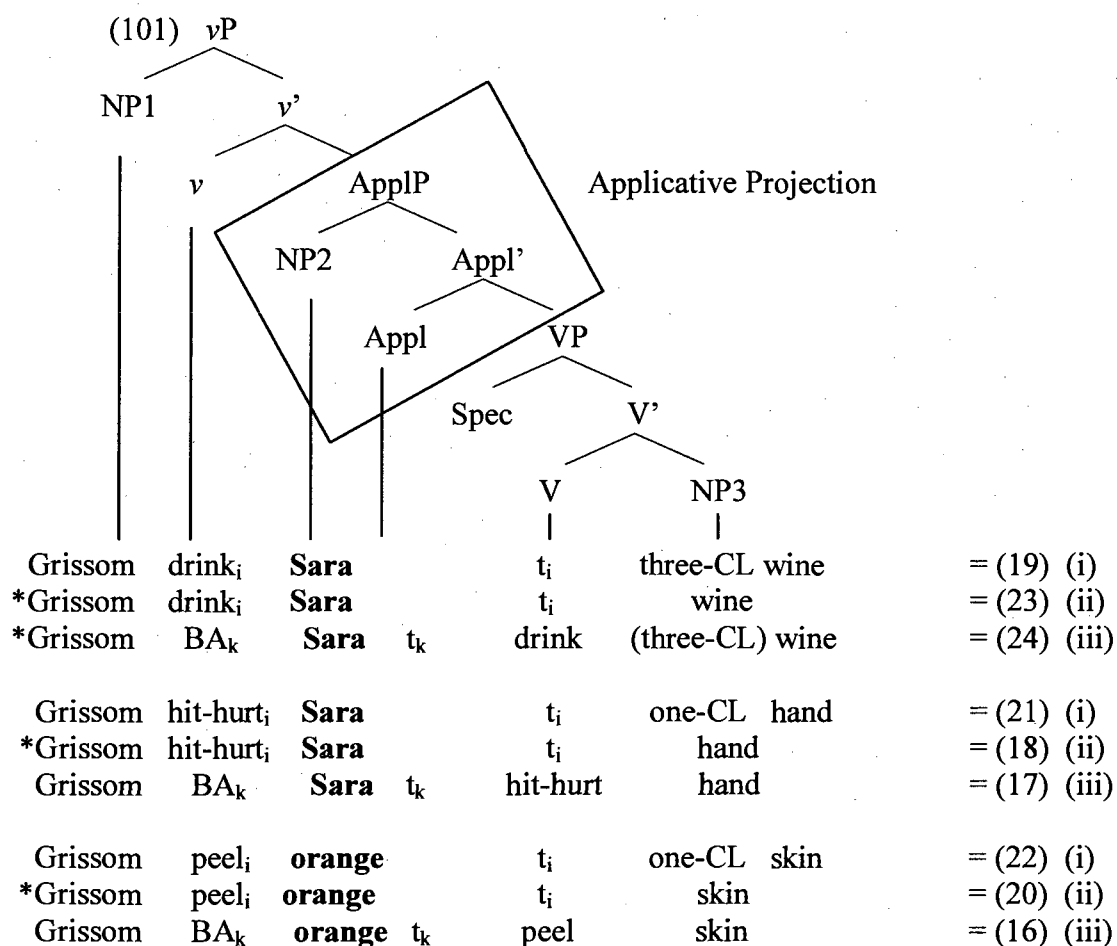   'I stole three very expensive books from Grissom.'

Perhaps for some unknown reason, without the demonstrative the relative adjective can adjoin to ClP, and this derivation then makes the sequence [Possessor-Adj-ClP] possible (ClP adjunction should not be allowed when a demonstrative is present, given (84)). I will leave this issue for future research.

3.3.6   Summary

In this section, I have shown that the existence of possessor raising is further supported by the emergence of possessive/resumptive pronouns. I have shown that the a condition on the presence of the resumptive pronouns, CVC, provides strong evidence in favor of the claim that movement of the possessor has to be involved in the BA construction. I have also provided an account of the distribution of adjectives and possessors in pseudo-DOC and BA constructions by examining the NP structure of Chinese.

3.4 The BA Restriction

The various constructions considered in this chapter are repeated in (101). I have discussed the distribution of the groups (i) and (ii), and I will now turn to the third group of examples, namely (24), (16) and (17).

(101) *v*P

```
          vP
        /    \
      NP1     v'
            /    \
           v    ApplP          Applicative Projection
                /    \
             NP2    Appl'
                   /    \
                 Appl    VP
                        /    \
                      Spec    V'
                             /    \
                            V     NP3
```

Grissom	drink$_i$	**Sara**		t$_i$	three-CL wine	= (19) (i)
*Grissom	drink$_i$	**Sara**		t$_i$	wine	= (23) (ii)
*Grissom	BA$_k$	**Sara**	t$_k$	drink	(three-CL) wine	= (24) (iii)
Grissom	hit-hurt$_i$	**Sara**		t$_i$	one-CL hand	= (21) (i)
*Grissom	hit-hurt$_i$	**Sara**		t$_i$	hand	= (18) (ii)
Grissom	BA$_k$	**Sara**	t$_k$	hit-hurt	hand	= (17) (iii)
Grissom	peel$_i$	**orange**		t$_i$	one-CL skin	= (22) (i)
*Grissom	peel$_i$	**orange**		t$_i$	skin	= (20) (ii)
Grissom	BA$_k$	**orange**	t$_k$	peel	skin	= (16) (iii)

The main question is why (24) is ungrammatical. Notice that (22) and (21) show that it is possible to have inalienable nominals in the pseudo-DOC construction but it is not always possible to have alienable nominals in the BA construction, as in (24). According to the literature (Cheng and Ritter 1988 and Yoon 1990), only inalienable nominals (part-whole or body-part) are possible candidates in the BA construction. While this is generally true, I will show below that in certain contexts, alienable NPs are, in fact, possible in the BA construction, which will be predicted by the account I will provide, but raise a problem for previous accounts.

It is well known that inalienable nominals show some interesting properties.[33] They have to come at least in a pair, which has a superset-subset relation like *whole-part* and *body-part* relations. Hence whatever happens to the subset, this event will entail the affectedness of the superset. For example, if someone's hand is hurt, this entails that this person is hurt because the hand is part of the body. On the other hand, this does not hold for alienable possessors, even if they are Affectees. I suggest that this special property is what makes the inalienable nominals most compatible with the BA construction.

I make the following hypothesis: I claim that only inalienable nominals are compatible with the BA construction because the BA construction comes with its own special restriction. As mentioned in Chapter 2, BA comes with its own meaning, which is probably due to its usage as a verb in Ancient Chinese. Hence in a typical BA construction (also know as 'the disposal construction'), though the verb carries the major meaning for the whole sentence, it also has to interact with BA which imposes a certain meaning on the object. As proposed by Cheng and Ritter (1988), there exists a BA-linking Filter in the BA construction: BA only co-occurs with verbs that assign the theta-role of affected theme to their internal arguments. Furthermore, the complement of BA must be the semantic object of the verb. The latter proposal basically illustrates why the BA construction is also called the "retained object construction" in the literature.

---

[33] Note that the inalienable nominals that I discuss here do not cover all relational nominals (cf. Zhang 2009), in particular not kinship terms. Whether kinship nominals count as inalienable or not differs cross-linguistically (cf. Guéron 2005). Furthermore, we also find speaker variation in possessor raising constructions with kinship terms in Chinese. For example, Li (2006) judges the following example as grammatical. However, my consultants and myself find it unacceptable. Hence, I will only consider body-part and part whole nominals as inalienable nominals.
  (i)   %tufei   ba   ta   sha-le   fuqin.
         bandit BA   him kill-Le father
         'The bandit killed his father.'

(102)   BA-linking Filter
    Ba   Verb
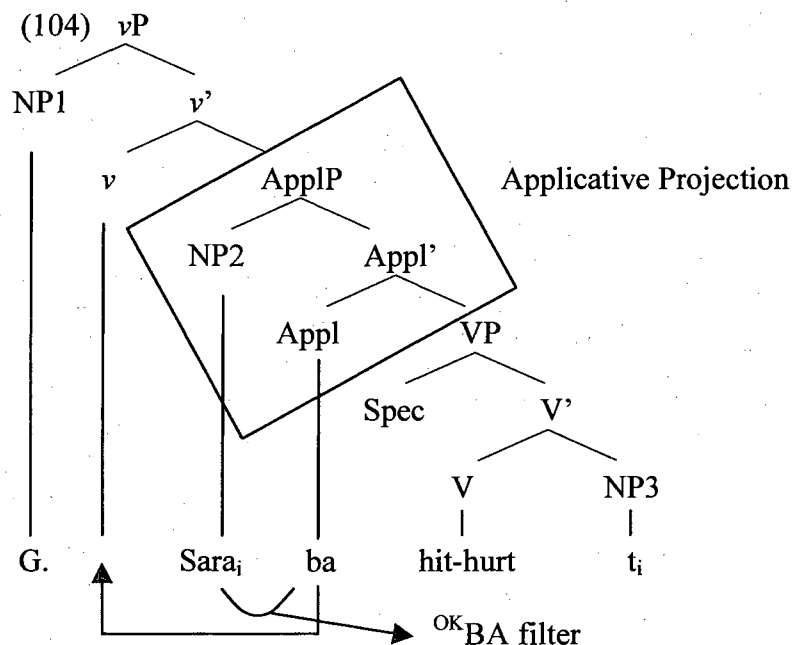   <affected theme$_i$>   <X$_j$ <affected theme$_k$>>
    *unless i = k

I reinterpret Cheng and Ritter's ideas and incorporate them into the current proposal in the following way: First, in order to form a BA construction, the verb has to be able to project an Applicative Projection right above VP. Second, BA can be inserted at the head position of the ApplP. If BA is inserted, an NP must move to Spec, ApplP to satisfy the thematic properties of BA. The restriction imposed by BA is that the phrase in Spec, ApplP (i.e., the phrase receiving a theta-role from BA) has to be a semantic object of the verb. I suggest that the semantic object is defined as follows: in a configuration [V [$_{NP3}$ NP2-POSS N3]] NP2 is a semantic object of V if V(NP3) entails V(NP2).[34] Last, following the assumption that v has to be overtly filled in Chinese (cf. Huang, Li, and Li 2009), BA then moves to the head position of vP.

Now let us see how the above can be illustrated by a typical BA construction like the one in (103). The structure is shown in (104).

(103)   Geruisen ba Sala$_i$ da-shang-le   t$_i$.
    Grissom BA Sara   hit-hurt-ASP
    'Grissom hurt Sara.'

---

[34] Note that the BA construction is very sensitive to the verb and the relations between NP2 and NP3. This is illustrated by the following minimal pair. For example, in example (ii), although we also have a body-part relation, the sentence is not fully acceptable. This may be because the cutting of the hair does not really entail the cutting of Sara. Hence (ii) is not as acceptable as the example in (i).
    (i)   Geruisen ba Sala da-shang-le shou.
               Grissom BA Sara hit-hurt-ASP hand
               'Grissom hurt Sara's hand.'
    (ii)   ??Geruisen ba Sala jian-le   toufa.
               Grissom BA Sara cut-ASP hair
               'Grissom cut Sara's hair.'

(104) vP

NP1 v'

v ApplP Applicative Projection

NP2 Appl'

Appl VP

Spec V'

V NP3

G. Sara$_i$ ba hit-hurt t$_i$

^{OK}BA filter

In (103), the verb *da-shang* ('hit-hurt') can project an ApplP, and BA can be inserted at the head position of ApplP. Then the postverbal NP *Sara* moves to Spec, ApplP, where it receives the Affectee theta-role. The syntactic object is trivially also the semantic object, hence the BA restriction is met. BA then moves to the *v* head to complete the last step.

With this in mind, let us examine the following two sentences (17) and (24), repeated here as (105) and (106).

(105) Geruisen ba Sala da-shang-le shou.   = (17)
       Grissom BA Sara hit-hurt-ASP hand
   'Grissom hurt Sara's hand.'

(106) *Geruisen ba Sala he-le   san-ping jiu.   = (24)
        Grissom BA Sara drink-ASP three-bottle wine
       'Grissom drank three bottles of wine on Sara.'

The difference between (105) and (106) is that an inalienable nominal is used in the former, while an alienable nominal is used in the later. For example (105), the derivation is almost the same as the one in (103), the only difference is that only the possessor of the postverbal NP moves to Spec ApplP, rather than the whole NP phrase. To see whether *Sara* qualifies as

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a semantic object of the verb, we need to see whether there is an entailment relation between the event *hitting Sarah's hand* and the event *hitting Sarah*. Since this is the case, *Sarah* passes the BA requirement that the NP receiving a theta-role from BA be a semantic object of the verb, and hence the structure is licensed. This is illustrated in (107).
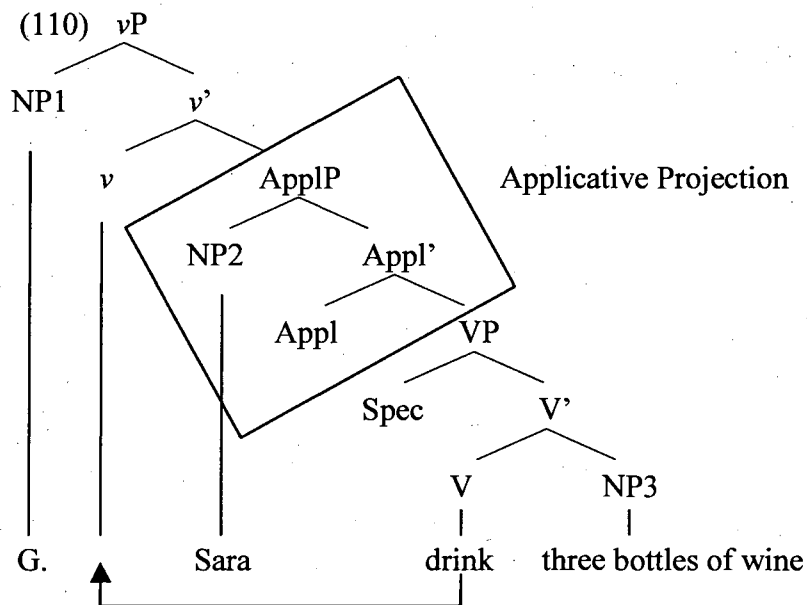
(107) *v*P
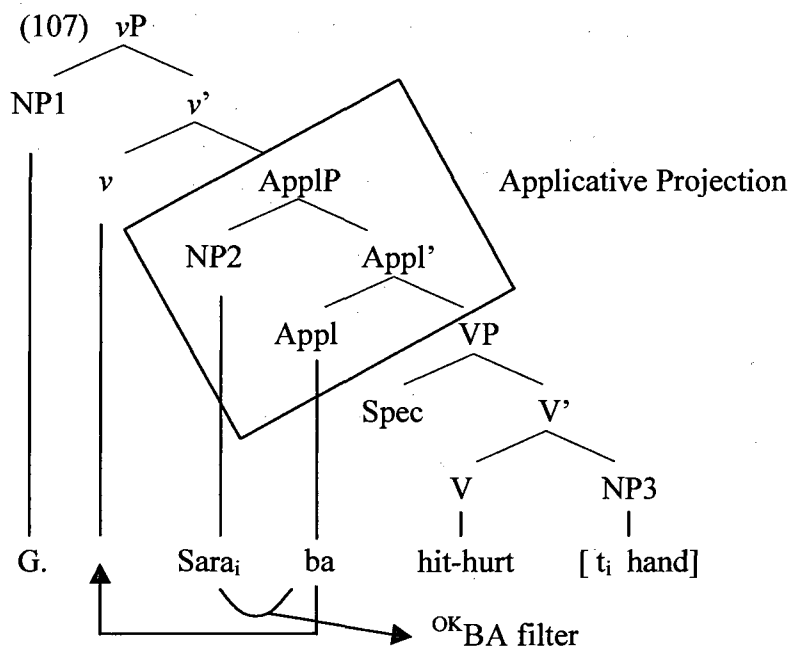
On the other hand, the alienable Affectee *Sara* in (106) cannot pass the BA requirement. If *Sara* (which could be a possessor of *the three bottles of wine* and an Affectee of the event) moves to Spec, ApplP, the BA requirement that the NP in Spec, ApplP be a semantic object of the verb would not be met: there is clearly no entailment between *drinking Sarah's wine* and *drinking Sarah*. Thus, BA could not assign the appropriate theta-role in (108) below.

(108) *v*P

Applicative Projection

G.   Sara$_i$ ba   drink   [t$_i$ three bottles of wine]
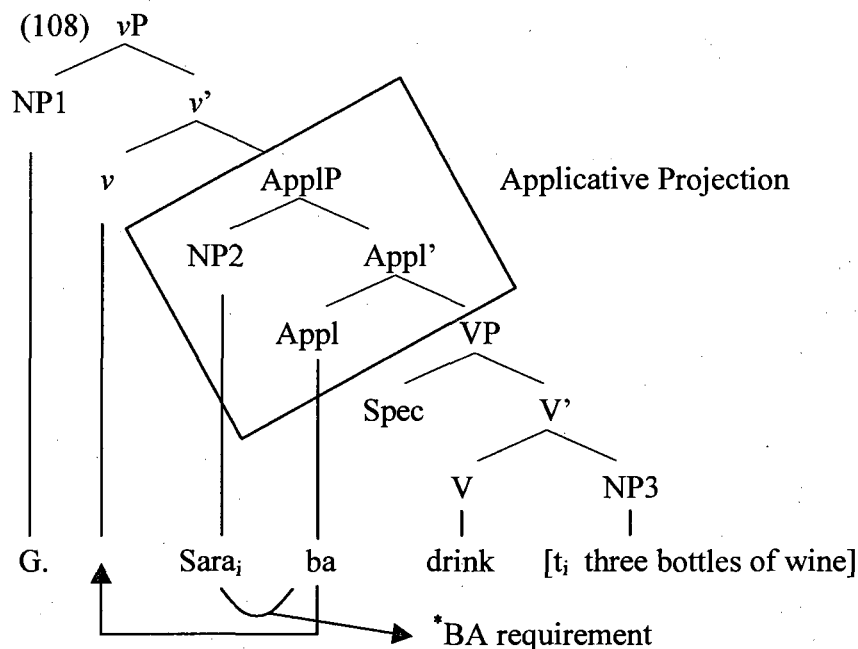
*BA requirement

Note that except for the BA requirement, there is nothing wrong with the derivation in (108).

Most importantly, *Sara* in (108) can get both the possessor and the Affectee theta-role. Hence

this means that a possessor-possessee relation plus an Affectee interpretation on NP2 are not

sufficient to make an NP compatible with the BA construction. Most crucially, the NP in

Spec, ApplP headed by BA has to be a semantic object of the verb. The specific requirement

of the BA construction also explains why the pseudo-DOC counterpart of (106) is

grammatical, repeated here as (109).

(109) Geruisen he-le   Sala   san-ping   jiu.   = (19)
       Grissom drink-ASP   Sara   three-CL   wine
       'Grissom drank three bottles of wine on Sara.'

(110) *v*P

```
        vP
       /  \
     NP1    v'
      |    /  \
      |   v    ApplP        Applicative Projection
      |      /    \
      |    NP2    Appl'
      |         /    \
      |       Appl    VP
      |            /    \
      |          Spec    V'
      |               /    \
      |              V      NP3
      |              |       |
  G.  ▲    Sara    drink   three bottles of wine
      └_____┘
```

Compared to the BA construction, the pseudo-DOC construction is less 'strict' in the requirement of its components. Recall that in the pseudo-DOC construction, NP2 is base-generated under Spec, ApplP, where it gets the Affectee theta-role. The possessor reading of NP2 is optional because it comes from the context. The verb has to move to *v* under the assumption that the *v* head has to be overtly filled. Therefore though the pseudo-DOC and BA constructions share the same basic structure, the requirement for the NP in Spec, ApplP to be interpreted as a semantic object comes solely from BA, which is a particular instantiation of the Appl head (and not from the Appl head in general).

Strong support for this analysis comes from the following examples. Recall that in the BA construction, the whole object can move to a preverbal position, followed by further raising of the possessor. An example is given in (111a) (cf. the structure in (41) and (111b)). Movement of the entire object to Spec, ApplP is compatible with BA since, as mentioned above, the (entire) syntactic object trivially fulfills the BA requirement that the NP in Spec, ApplP be a semantic object. On the other hand, further movement of 'Sara' to a recursive *v*P in (111b), in contrast to possessor raising in (106), is not subject to the BA requirement. The

BA requirement only applies to the NP in Spec, ApplP—the NP which receives a theta-role from BA. I have argued in section 3.2.5, that crucially, the possessor in examples such as (111) does not receive an Affectee interpretation, but only a possessor theta-role. Thus, the account correctly predicts that i) the BA construction is compatible with an alienable NP (as long as there is also another preverbal NP with could function as a semantic object); ii) the BA requirement is not necessarily imposed on the NP following BA, but rather on the NP which, according to my account, is in Spec, ApplP. Since BA undergoes movement from the Appl head to the highest v head, it will always precede all possessors and affectees. However, crucially, only the NP in Spec, ApplP will have to qualify as a semantic object.[35]

> (111) a. Geruisen ba Sala san-ping jiu he-le. (alienable nominal, but ok)
>   Grissom BA Sara three-CL wine drink-ASP
>   b. [$_{TP}$ Grissom [$_{vP}$ BA$_k$ [$_{vP}$ Sara$_j$ [$_{ApplP}$ [t$_j$ three bottles of wine]$_i$ t$_k$
>   [$_{VP}$ drink t$_i$]]]]]

The current account also makes the following prediction: in the sequence BA-NP2-NP3-V-NP4, NP3 and NP4 have to be in an inalienable relation, while NP3 and NP2 can be either in an alienable or an inalienable relation. The example in which both pairs are in inalienable relations was given in (112). In (112), NP 2 'Nick' and NP3 'hand' are inalienable. On the other hand, the example where NP2 'Sara' and NP3 'car' are in alienable relations is shown in (113).

> (112) Geruisen ba Nike shou da-shang-le damuzhi.
>   Grissom BA Nick hand hit-hurt-ASP thumb
>   'Grissom hurt Nick's thumb.'

> (113) Geruisen ba Sala chezi zhuang-huai-le san-shan men.
>   Grissom BA Sara car   hit-break-ASP   three-CL door
>   'Grissom broke three doors of Sara's car.'

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[35] Also see the discussion in Section 4.3.3 where I have used resumptive pronouns to show that possessor raising has to be involved in (111), but not in (109).

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Therefore it is not absolutely impossible to have alienable nominals in the *v*P domain. As long as the BA filter can be satisfied by making use of the recursive *v*P projection, all the possessor raising cases that are found in the TP domain can be done in the *v*P domain. As mentioned before, it has been noticed in the literature that possessor raising in the *v*P domain requires inalienable nominals, which is not the case with the TP domain. The relevant examples are given below with alienable nominals.

(114)   a. Sala san-ping jiu   bei   Geruisen he-le.   (TP domain)
          Sara three-CL wine   BEI   Grissom drink-ASP
          'Sara's three bottles of wine was drunk by Grissom.'
       b. [TP Sara$_j$ [TP [t$_j$ three bottles of wine]$_i$ BEI [TP OP$_i$ [TP Grissom drink t$_i$]]]]

Previous researchers proposed that the asymmetry between (106) and (114a) is due to the Applicative projection present in the *v*P domain, but not in the TP domain. Based on the above discussion, I believe that it is more accurate to say that the asymmetry lies in whether there is an Applicative projection plus the BA restriction. An important example here is (111), which makes use of the recursive *v*P to void the BA restriction in spite of the presence of ApplP.

3.5 The High and Low Applicative Projections

In this section, I will briefly compare different possessor (raising) constructions cross-linguistically. By adopting Pylkkänen (2008), I propose a full paradigm for different possessor (raising) cases in Chinese and other languages.

First, let me briefly introduce Pylkkänen (2008)'s proposal regarding two different Applicative Projections. Pylkkänen proposes that there are two argument introducers: a high applicative projection and a low applicative projection. The low applicative projection in fact

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can be further divided into low *recipient* and low *source* applicative. The details of these two

projections are summarized in Table 3.1.

Table 3.1 Applicative Projections

	High applicative	Low applicative	
		Recipient	Source
Location	The high applicative head attaches above the VP (the *v*P domain)	The low applicative head combines with the direct object (the VP domain)	
Meaning	Thematic relation between an applied argument and the event described by the verb (i.e. an event and an individual)	Transfer-of-possession relation between two individuals: asserts that the direct object is to/from the possession of the indirect object	
Affectee[36]	Beneficiary/Maleficiary	Beneficiary/Maleficiary	

As one can see, though both applicative projections involve Affectedness, there is a

significant difference between them. The high applicative projection does not entail anything

about the relation of possession. It only provides the Affectee reading to whatever is located

in its Specifier. On the other hand, the low applicative projection guarantees a possession

relation between the NP in its Spec and the NP in the direct object position.

So far I have examined the cases involving the *v*P/high applicative projection in both

the pseudo-DOC and the BA construction in Chinese. I have shown that the latter may

involve possessor raising. Though the high applicative projection does not come with an

inherent possession relation like the low applicative projection, the obligatory possessor-

possessee reading in the BA construction is the result of the possessor being assigned a theta-

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[36] In order to facilitate the following discussion, here I further divide Affectee into Beneficiary and Maleficiary. In Pylkkänen (2008) both Beneficiary and Maleficiary are shown explicitly for the high applicative projection. I add both Beneficiary and Maleficiary for the low applicative projection by going through the examples in her book. But also note that these distinctions may have cross-linguistic variations. For example, in Chinese, as far as I can see, the Affectee in the high applicative projection is a Maleficiary (see (i)) while the one for the low applicative projection is a Beneficiary (see also footnote 41).

(i) *Geruisen ba Sala qien-le shou.
    Grissom BA Sara kiss-ASP hand
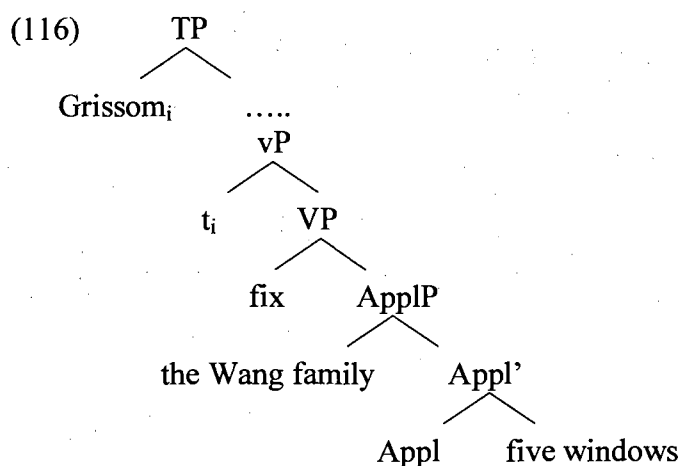   'Grissom kissed Sara's hand.'

role within the nominal domain it originates in. In the following discussion, I will further compare the high applicative with possessor raising with the low applicative possessor construction in Chinese. Following Pylkkänen (2008), since the low applicative already imposes the possession relation on the NP in its Specifier, I simply assume that no possessor raising is necessarily involved in the VP domain. That is, a possessor construction in the low applicative can be derived by base-generation (contra Landau 1999's proposal for Hebrew).[37]

3.5.1   The Low Applicative in Chinese

In this section I introduce the possessor construction in VP domain in Chinese. As argued by Tsai (2008), the sentence in (115) is a possessor construction of this sort. In this sentence, the five windows must belong to the Wang family, and the Wang family is also being affected/benefited from the fixing of the windows (cf. Lu 2002). So the following scenario is impossible for (115): these five windows (and the house) belong to *Grissom*, and the Wang family paid for the fixing. The Wang family does not own the windows or the house. The structure is shown in (116).

(115)   Geruisen xiu-le   Wang-jia   wu-shan chuang.   (VP domain)
        Grissom fix-ASP Wang-family five-CL   window
        'Grissom fixed five windows for the Wang family.'

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[37] Recall that I previously assumed that for inalienable nominals, an obligatory possessor-possessee reading among them entails possessor raising. For example, the possessor in (112) has to get its possessor theta-role from the possessee and undergoes possessor raising. Though a low applicative projection (see (116) for structure) already assures a possessor-possessee relation, I assume that a raising approach for inalienable nominals is essentially compatible with the obligatory possessor-possessee reading caused by the low applicative projection itself. This applies to other inalienable nominal cases in the low applicative projection in the following discussion.

(116)   TP

     Grissom$_i$ .....

             vP

       t$_i$ VP

         fix   ApplP

    the Wang family   Appl'

             Appl   five windows

One important thing to note about (115) is that there is no transaction of ownership involved. Before and after the fixing event, the windows belong to the Wang family. As Tsai points out, this 'simple possession' relation is different from the 'directional possession' under Pylkkänen's proposal of low applicative projection. (cf. Table 3.1) But I simply assume that the 'simple possession' relation can also be accommodated under Pylkkänen's low applicative proposal as Tsai does (see (116)). That is, no possessor raising needs to be involved. Furthermore, unlike the BA construction, example (117) shows that NP3 can be modified by a non-restrictive adjective, which is not allowed in possessor raising cases, as we have seen in Section 3.3.5.

> (117) Geruisen xiu-le   Wang-jia   yaoyaoyuzhui-de   chuang.
>   Grissom fix-ASP Wang-family shake-shake-to-fall-DE window
>   'Grissom fixed the windows which are almost fallen for the Wang family.'

Also note that there is no Specificity Effect for example (115), as shown in (118). Recall that possessor raising cases in Chinese do exhibit a Specificity Effect (cf. (98) and (99)).

> (118) Geruisen xiu-le   Wang-jia   zhe-wu-shan chuang.
>   Grissom fix-ASP Wang-family this-five-CL   window
>   'Grissom fixed these five windows for the Wang family.'

So we may conclude that for example (115), there is no transition of possession, but the Wang family is still understood as a Beneficiary. And the possession relation is not derived by possessor raising. An inalienable counterpart is given below.

(119) Geruisen xiu-le   zhe-dong fangzi wu-shan chuang.
      Grissom fix-ASP this-CL   house five-CL window
      'Grissom fixed five windows for this house.'

One may wonder how example (115) can be distinguished from example (120) (a pseudo-DOC), which I have shown involves a high/vP applicative projection. Though there is already an obligatory/optional possessor interpretation difference between (115) and (120), they do share the same surface word order: NP1 (subject) – verb – NP2 – NP3.

(120) Geruisen he-le   Sala san-ping jiu.   (vP domain)
      Grissom drink-ASP Sara three-CL wine
      'Grissom drank three bottles of wine on Sara.'

Fortunately, there is a test to distinguish the two sentences. Tsai (2008) shows that NP2 in (115) cannot undergo passivization, but NP2 in (120) can. This is shown below.

(121) *Wang-jia   bei Geruisen xiu-le   wu-shan chuang.   = (115)
       Wang-family BEI Grissom fix-ASP five-CL window
(122) Sala bei Geruisen he-le   san-ping jiu.   = (120)
      Sara BEI Grissom drink-ASP three-CL wine

The following example shows that NP2 in the BA construction can also undergo passivization.

(123) a. Geruisen ba **Sala** da-shang-le shou.
         Grissom BA Sara hit-hurt-ASP hand
         'Grissom hurt Sara's hand.'
      b. Sala bei Geruisen da-shang-le shou.
         Sara BEI Grissom hit-hurt-ASP hand

I summarize the properties of these three constructions in the following table.

Table 3.2 Pseudo-DOC, the BA Construction and Low Applicative

	Position	Base-generation	Obligatory Possessor relation	Passivization of IO (NP2)[38]
Pseudo-DOC (120)	vP (Maleficiary)	Yes	No	Yes
BA-construction (123a)		No	Yes (PR)	Yes
Low Applicative (115)	VP (Beneficiary)	Yes	Yes (low ApplP)	No

The first three properties follow straightforwardly from what I have discussed so far. As for the last property, there is a simple semantic account for it. It is well known that in Chinese, what can be passivized in long passives (with the appearance of an Agent) always involves some adversity reading (cf. Huang 1999). Therefore (124a) is a legitimate sentence but (124b) is not.

(124) a. Sala bei zhexie xuesheng da-le.
          Sara BEI these   student   hit-ASP
          'Sara was hit by these students.'
       b. *Sala bei zhexie xuesheng xuan-le.
          Sara BEI these   student elect-ASP
          'Sara was elected by these students.'

Following the same reasoning, it is not hard to see why only the Maleficiary in the Pseudo-DOC and the BA construction can undergo passivization. It is impossible to have the NP2 in a low applicative construction undergo passivization since it is interpreted as a Beneficiary. The sentence is ruled out for the same reason as (124b).[39]

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[38] The passivization of NP3 (DO) is not possible in all three constructions. Tsai (2008) proposes that this is due to the relativized minimality violation since NP3 has to move across NP2.

[39] One may wonder if it is necessary to postulate two different applicative constructions in Chinese since the passivization difference between (118) and (120) is due to a semantic restriction on the passive construction itself. I believe that we do need two different applicative projections in Chinese for the following reasons: First, recall that in the high applicative projection, its specifier can host a base-generated or a raised possessor. But the former does not involve obligatory possession as the latter does. Then, it is hard to see how this high applicative projection can accommodate (118) since the possessor in (118) is base-generated but is also involved in an obligatory possession relation. Furthermore, there is also the inalienable nominals requirement for the BA

The special requirement of Chinese long passive provides another argument for my analysis for example (28), repeated here as (125).

(125) Geruisen ba Nike taitai da-shang-le shou.
       Grissom BA Nick wife hit-hurt-ASP hand
       'Grissom hurt Nick's wife's hand.'

Recall that only *wife* is the Affectee (Maleficiary) in (125) but not *Nick*. This is because *wife* is located in Spec, ApplP, while *Nick* is in the Spec of a recursive *v*P. This then predicts that *Nick* cannot undergo passivization because he is not interpreted as an Affectee (Maleficiary). On the other hand, the whole phrase [*Nick* wife] should be able to undergo passivization because *wife* is the Affectee (Maleficiary). The choice of the genitive marker -*de* in between *Nick* and wife depends on whether there is possessor raising within TP domain or not. These predictions are borne out in (126).

(126) a. *Nike bei Geruisen taitai da-shang-le shou.
          Nick BEI Grissom   wife hit-hurt-ASP hand
          'Intended meaning: Grissom hurt Nick's wife's hand'
       b. Nike (de) taitai bei Geruisen da-shang-le   shou.
          Nick DE wife BEI Grissom hit-hurt-ASP hand

Sentence (127) illustrates the same point. In (127a) the Affectee (Maleficiary) is *hand*, hence [Nick wife] cannot undergo passivization.

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construction but not for the other two. Combining these two properties together, we do need a tree way distinctions here:

(i)   Pseudo-DOC, BA-Construction, and Low Applicative

Properties	Pseudo-DOC	BA-Construction	Low Applicative
Obligatory Possession	No	Yes	Yes
Inalienable nominals	No	Yes	No

Second, semantically we also require two different projections. As shown in Table 3.2, the possessor in the pseudo-DOC and the BA-construction is interpreted as a Maleficiary, but the possessor in (119) is interpreted as a Beneficiary. To squeeze (119) into the high applicative projection would then also cause a semantic conflict. Note, however, that cross-linguistically, it is possible to find a single applicative projection which hosts both Maleficiary and Beneficiary possessors, as in Japanese or Hebrew. However, these languages all come with some deficiencies in displaying different applicative projections. For example, in Japanese there is the double-*o* constraint, therefore no high applicative projection is available. Hence in these languages both Maleficiary and Beneficiary are forced to share the same low applicative projection. It may be the case that the theta-role assigned in this single projection is 'Affectee', interpreted either as a Beneficiary or as a Maleficiary. Since there is no such problem in Chinese, having two different projections to host two different Affectees (or to assign different theta-roles) is then preferred.

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(127) a. Geruisen ba   Nike taitai shou da-shang-le.
       Grissom BA Nick wife hand hit-hurt-ASP
       b. *Nike taitai bei Geruisen shou da-shang-le.
       Nick wife BEI Grissom hand hit-hurt-ASP
       'Intended meaning: Grissom hurt Nick's wife's hand'

3.5.2   Some Cross-Linguistic Variation

It has been reported extensively in the literature that possessor raising can also been

found in Korean and Japanese. In Korean, possessor raising can be found at both the TP and

the vP domain. This is shown in (128). In Japanese, only TP possessor raising is available. A

Japanese possessor raising in the vP domain will involve two accusative-marked argument,

which is not allowed because of the double-o constraint in Japanese (see also Chapter 4 for

relevant discussion of the double-o constraint). A TP example is shown in (129).

(128)   Korean
        a. Sara-ka   (jeongmal) moksoli-ka kop-ta.   (TP domain)
           Sara-Nom   really   voice-Nom beautiful-Decl
           'Sara's voice is really beautiful.'
        b. Grissom-ka   Sara-ul   (ecey)   tali-lul   cha-ss-ta (vP domain)
           Grissom-Nom Sara-Acc yesterday leg-Acc kick-Past-Decl
           'Grissom yesterday kicked Sara's leg.'

(129)   Japanese
        Usagi-ga   (taitee) mimi-ga naga-i.   (TP domain)
        Rabbit-Nom general ear-Nom long-Pres
        'it is rabbits which generally have long ears.'

Chinese thus patterns with Korean and Japanese in that it has possessor raising. Especially,

Chinese and Korean also allow multiple possessors in both the TP and the vP domain.

For Korean, it has been claimed that there is an affectedness contrast between the vP

and the TP domains (cf. Xu 2004-2005 and the discussion of Chinese in Section 3.4). The

possessor in the vP domain can only express an inalienable relationship, such as body-part

and part-whole, with its possessee (cf. Yoon 1990). On the other hand, there is no such

restriction in the TP domain. Either alienable or inalienable possession is acceptable. The Korean examples are shown in (130) and (131) respectively. This difference has been attributed to the appearance of an Affectee projection in the *v*P but not in the TP domain.

(130) a. *Grissom-ka   Sara-ul cha-lul cha-ss-ta.   (*v*P domain)
       Grissom-Nom Sara-Acc car-Acc kick-Past-Decl
       'Grissom kicked Sara's car.'
    b. Grissom-i   cha-ka   khu-ta.   (TP domain)
       Grissom-Nom car-Nom big-Decl
       'Grissom's car is big.'

(131) a. Grissom-ka   Sara-ul   tali-ul cha-ss-ta   (*v*P domain)
       Grissom-Nom Sara-Acc leg-Acc kick-Past-Decl
       'Grissom kicked Sara's leg.'
    b. Sara-ka   tali-ka   kop-ta.   (TP domain)
       Sara-Nom leg-Nom beautiful-Decl
       'Sara's legs are beautiful.'

However, as pointed out by Vermeulen (2005), the claim that only inalienable possessor-possessee relationships are possible in the *v*P domain is too strong. While inalienable possessor constructions are the most common case, alienable possessors are possible as well. For example, in the Korean example in (132), the relationship between *Swuni* and the train of the dress is alienable. And this sentence is grammatical. As noted by Vermeulen, this sentence is acceptable as long as *Swuni* is wearing the dress. I interpret Vermeulen's observation as follows: *Swuni* has to be the possessor, but she does not necessarily have to be affected.[40]

(132) Cheli-ka   Swuni-lul chimacalak-ul pwutcap-ass-ta.
     Cheli-Nom Swuni-Acc dress.train-Acc catch-Past-Decl
     'Cheli caught the train of the dress that Swuni is wearing.'
                              (J. H.-S. Yoon 2001: 6)

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[40] As pointed out to me by Jonathan Bobaljik (p.c.), clothing, while worn, could be construed as an extended part of the body. Hence the example in (132) could be seen as involving an 'extended' affectedness effect (if a piece of clothing is caught, the person wearing that piece of clothing is caught as well),

Recall that the same phenomenon can be observed in Chinese, too. In fact, it is clearer in Chinese that alienable nominals are indeed allowed in *v*P domain. The examples (105) and (106) are repeated as in (133) and (134). As discussed in Section 3.4, if the possessor and the possessee have an alienable relationship, when only the possessor moves, the sentence is bad because it violates the BA filter, as shown in (134). However, if both the possessor and the possessee move to the preverbal position, the sentence becomes grammatical, as shown in (135).

(133) Geruisen ba   Sala da-shang-le   shou.   (inalienable)
      Grissom BA Sara hit-hurt-ASP hand
      'Grissom hurt Sara's hand.'

(134) *Geruisen ba   Sala he-le   san-ping jiu.   (alienable)
      Grissom BA Sara drink-ASP three-CL wine
      'Grissom drank three bottles of wine on Sara.'

(135) Geruisen ba   Sala san-ping jiu   he-le.   (alienable)
      Grisosm BA Sara three-CL wine drink-ASP

The fact that Chinese does allow alienable possessor-possessee in the *v*P domain is very clear because of the different positions of the possessee. In (134) the possessee is in a postverbal position, while in (135) it is in a preverbal position. This contrast cannot be found in Korean since it is a head-final language. But for the Korean example in (132), based on the interpretation, I still would like to propose that the possessee in (132) has moved further to Spec ApplP position, and the possessor moves to a recursive *v*P position (basically just as in the Chinese example (135)). Hence there is only a possessor reading on *Swuni*, but she does not have to be necessarily affected.

To sum up, I conclude that the inalienable requirement reported in the literature holds obligatorily only when the possessor is in Spec, ApplP.[41] As I have shown in Section 4.4, the body-part or the part-whole inalienable relation ensures that the possessor in Spec, ApplP is compatible with the Affectee reading because of the BA filter. But if we force the possessee to stay in the Spec, ApplP, we can also get an alienable relation between the possessor and the possessee.[42]

As for the VP domain, Pylkkänen (2008) proposes that the double object constructions in Japanese and Korean belong to this dimension. Note that unlike Chinese, in both (136) and (137) the transition of possession can be observed. Also notice that the case maker on NP2 is Dative.

(136) Grissom-ga   Sara-ni tegami-o   kaita.   (Japanese)
       Grissom-Nom Sara-Dat letter-Acc wrote
       'Grissom wrote Sara a letter.'

(137) Grissom-i   Sara-hanthey pyunci-lul sse-ess-ta.   (Korean)
       Grissom-Nom Sara-Dat   letter-Acc wrote-Past-Plain
       'Grissom wrote Sara a letter.'

The possessor construction can also be found in a number of non-East Asian languages. For example, Landau (1999) discusses the possessive dative construction (PDC) in Hebrew. As shown in (138), the possessor NP 'Rina' and the possessee NP 'the picture' can be linked by the genitive marker 'of'. Or the possessor NP can move to the Spec, VP position, accompanied by overt V-to-v movement. Note that the moved NP is marked with Dative case. Landau (1999) proposed that the possessor NP raises because it has to check its

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[41] This conclusion seems to imply that in Korean there should be something similar to the BA filter at work, though there is no overt realization of the ApplP head. Maybe there is an overt verb movement to ApplP head (or there could be a null counterpart of BA), which then induces the special requirement of inalienable nominals in multiple accusative constructions.

[42] Hence it is not necessary to say that it is the possessor that receives the Affectee interpretation in a possessor raising construction, as claimed in the literature. The Affectee interpretation in fact depends on which phrase stays in the Spec, ApplP.

dative case feature. The possessor (with the dative case) also receives an Affectee reading, which is not available when the possessor comes with a genitive marker. (cf. Lee-Schoenfeld 2006)

(138) a. Gil higdil   et   ha-tmuna šel Rina.
          Gil enlarged Acc the-picture of Rina
          'Gil enlarged Rina's picture.'
       b. Gil higdil   le-Rina et ha-tmuna.
          Gil enlarged to-Rina Acc the-picture.   (Landau 1999: 5)

Though a movement approach is also possible, recall that I employ a base-generation approach for (138b) by adopting Pylkkänen's (2008) proposal of the low source applicative projection. Hence there is no need to do possessor raising for PDC, the possessor is interpreted as a possessor because the low applicative projection comes with the requirement of possession between the indirect object and the direct object.[43]

Other languages which have similar constructions include German, French, Spanish and so on. Similar to Chinese, both alienable and inalienable relationship can be found in the VP domain in these non-East Asian languages. The alienable case is the one in (138b). The inalienable one is shown in (139).

(139) French
       J'ai   coupé les cheveux à Pierre.
       I have cut   the hair   to-Pierre
       'I cut Pierre's hair.'   (Guéron 1985: 69b)

3.5.3 Summary

Before I summarize the above discussion, I would like to present additional syntactic differences between the high applicative and the low applicative. First, while the former allows multiple possessors, the latter does not. This is shown in (140) and (141) respectively.

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[43] See also Landau (1999) for arguments for a movement approach and Pylkkänen (2008) for arguments for a base-generation approach.

(140) Korean
Grissom-ka   Sara-ul   pal-ul   kkuth-ul cha-ss-ta.
Grissom-Nom Sara-Acc foot-Acc end-Acc kick-Past-Decl
'Grissom kicked the end of Sara's foot.'

(141) Hebrew
*ha-yalda kilkela le-Dan le-axot et   ha-radio.
 the-girl spoiled to-Dan to-sister Acc the-radio
'The girl broke Dan's sister's radio.'   (Vermeulen 2005: 13)

The Chinese examples are given in (142).

(142) Chinese
a. Geruisen ba Nike taitai da-shang-le   shou.
   Grissom BA Nick wife hit-hurt-ASP hand
   'Grissom hurt Nick's wife's hand.'
b. ?*Geruisen xiu-le   Wang-jia   tinglou   wu-shan chuang.
    Grissom fix-ASP Wang-family top-floor five-CL window
    'Grissom fixed five windows on the top floor for the Wang family.'

Second, notice that there is also a case marker difference on the possessor. The possessor in

the high applicative projection is marked as accusative (cf. Korean in (140)). On the other

hand, the possessor in the low applicative is marked as dative (cf. Hebrew in (141)).
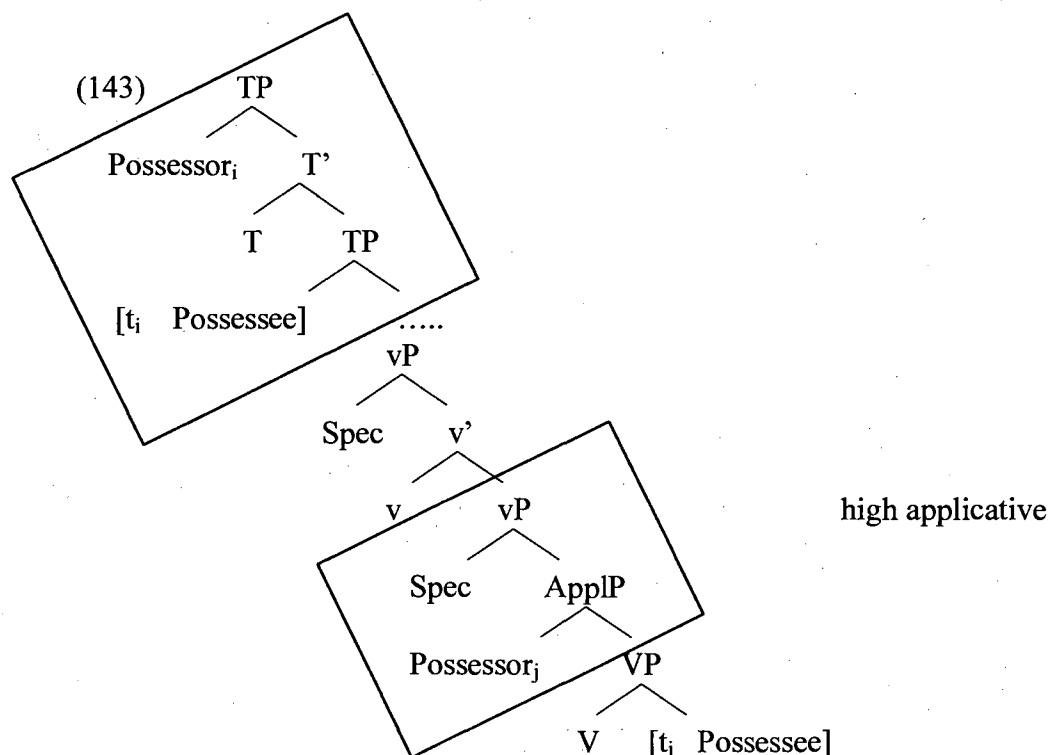
The differences in the possessor constructions of East Asian and non-East Asian

languages that we have discussed so far are summarized in Table 3.3.[44]

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[44] I am putting aside here the case of external topicalization of possessors, which involves movement to the CP domain (see Section 3.3.2).

Table 3.3 Comparisons of Possessor Constructions

	Chinese, Korean and Japanese	Hebrew and German	Note
Possessor raising	optional	optional	
VP domain (Affectee)	Alienable and inalienable	Alienable and inalienable	base-generation
vP domain (Affectee)	Alienable and Inalienable	N/A	base-generation /raising
TP domain	Alienable and inalienable	N/A	raising
Multiple possessors	Yes (but not for VP domain)	No	
Case marking (if applicable)	Accusative for vP domain; nominative for TP domain; Dative for VP domain	Dative	

I propose the structures in (143) and (144) for the three possible locations for the possessor cross-linguistically. The first two are in (143), the TP and vP domain. In both domains we can find possessor raising. The only difference is that only the latter involves an extra applicative projection.
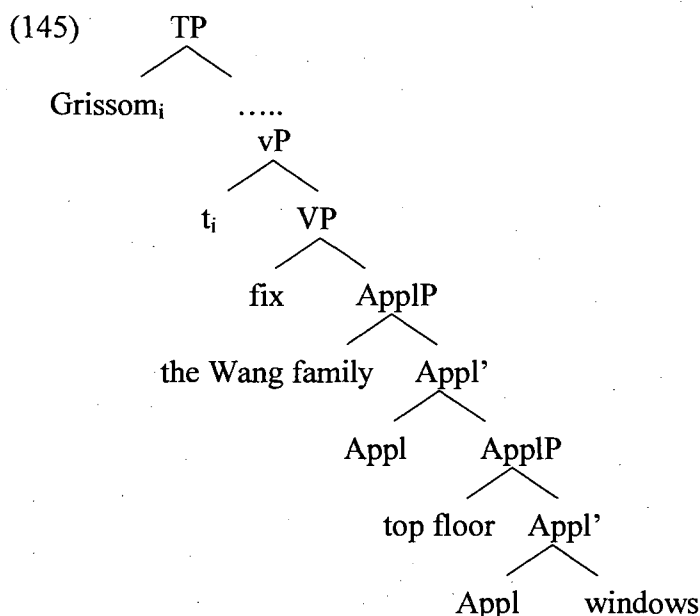

(143)

high applicative

The structure in (144) gives the third location for the possessor construction. There is no necessary possessor raising/movement involved. The possessor-possessee relation can be determined by the two NPs located in the low applicative projection.

(144)

TP

Subject$_i$ .....

vP

t$_i$ VP

V ApplP — low applicative

Possessor Appl'

Appl Possessee
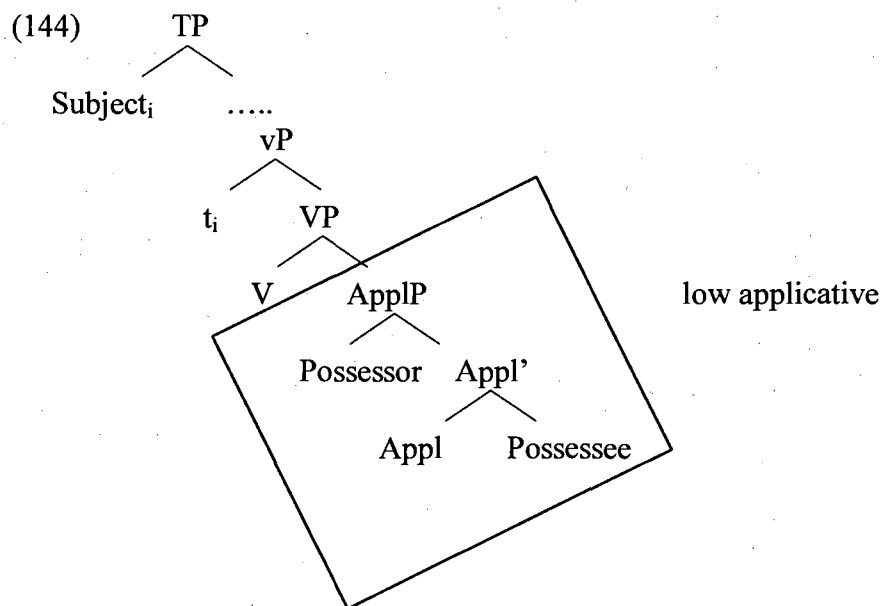
The differences between the East Asian and non-East Asian languages given in Table 3.3 can be explained with these structures. First, these two structures explain the appearance/disappearance of the Affectee readings. In East Asian languages, since there is no applicative projection in the TP domain, there is no Affectee reading imposed on the possessor. On the other hand, there are Applicative projections in both East Asian languages and non-East Asian languages in the *v*P and the VP domains. Hence, an Affectee reading is imposed on the possessor once the possessor is in the Specifier of the applicative projection, no matter which one.

Second, the locations of all three possible possessor landing sites also imply the possibility of multiple possessors. I assume recursion is in principle possible with functional projections, but not with lexical projections. Recall that multiple possessors are only possible

in the TP domain and the *v*P domain (see (140) and (142a)). For functional projections like TP and *v*P, multiple possessors should be allowed. As for the impossibility of multiple possessors in the VP domain, we may assume that in order to get an obligatory possession reading, the possessor and the possessee has to be in a Spec-Complement relation in the low Applicative projection. Hence if we have a multiple possessor in the VP domain, it would need to be something like this (cf. (142b)):

(145)
```
            TP
           /  \
    Grissom_i  .....
                vP
               /  \
             t_i   VP
                  /  \
                fix   ApplP
                     /     \
          the Wang family   Appl'
                           /    \
                         Appl    ApplP
                                /     \
                          top floor   Appl'
                                      /   \
                                   Appl    windows
```

As one can see, now 'the Wang family' and 'top floor' are not in a Spec-Complement relation, while 'top floor' and 'windows' are. Therefore the existence of multiple possessors is simply impossible in the VP domain.

Last, different case selections also perfectly fit into the above analysis. The possessor gets a Nominative case if it is in the TP domain. And it gets an Accusative case if it is in the *v*P domain. If the possessor is inside the VP domain, a Dative case is assigned. I assume that this is similar to the Dative case assignment for an indirect object in a regular double object construction.

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3.6 Conclusions

In this chapter, I have investigated in more detail the low internal topic position, i.e., the BA NP position. This internal topic BA NP can also accommodate a seemingly independent structure: possessor raising in Chinese. I have shown that possessor raising can be found in several contexts: subject position, unaccusative postverbal NP, and the BA construction. I have argued that movement must be involved in the BA construction, contra Huang (2008). Several arguments have been provided to support the movement approach, including multiple possessors, restrictive/non-restrictive adjectives, and the distribution of resumptive pronouns. Last, a cross-linguistic comparison of possessor constructions was conducted. I have observed several differences between East Asian and non-East Asian languages and provided explanations for them.

Chapter 4 The High Internal Topic Position

4.1 Introduction

In Chapter 2, I have shown that there are two internal topic positions, one between Spec, TP and Spec, *v*P (the high internal topic), and the other one in Spec, *v*P (the low internal topic). I have also shown that possessor raising in the BA construction is tightly related to the lower internal topic position.

In this chapter, I will discuss two constructions—the *light verb construction* in (1) and the *descriptive V-de construction* in (2)—and will show that, although these constructions have not been treated as topic constructions in previous works, an analysis in terms of movement to the high internal topic position provides a unified account of these constructions and allows us to resolve several long-standing puzzles raised by these complex predicate constructions.

(1) The light verb construction
    CSI zhege   anzi jinxing-le   diaocha.
    CSI this-CL case proceed-ASP   investigation
    'CSI made an investigation of this case.'

(2) The descriptive V-*de* construction
    Geruisen zhongguo-zi   xie-de   hen piaoliang.
    Grissom Chinese-character write-DE very beautiful
    'Grissom writes Chinese characters in a very beautiful way.'

In the first part of this chapter, I will discuss the light verb construction in Chinese and provide a movement account to explain its particular syntactic behavior. I will argue that such constructions involve a nominalized VP which, together with the noun phrase structure suggested in Chapter 3, will allow us to account for the syntactic properties of this construction in Chinese. I will also make a preliminary suggestion that the account can be extended to light verb constructions in Japanese. In the second part of the chapter, I will

discuss the descriptive V-*de* construction and show that this construction not only involves movement of the object to the high internal topic position, but also provides us with more evidence for differential object marking in Chinese.

4.2 Light Verb Constructions

In this section I will discuss light verb constructions in Chinese and Japanese. I will first focus on the Chinese light verb construction, where I argue that several puzzling properties of this construction (originally observed by Grimshaw and Mester 1988) can be derived naturally once we adopt an analysis in terms of internal topicalization. More specifically, I will argue that in the Chinese light verb construction the Theme argument of the verbal noun moves from within the projection of the verbal noun to the high internal topic position in the clausal domain. Since under this analysis, the verbal noun projection contains a trace, assuming that (some version of) the Proper Binding Condition (cf. Fiengo 1974, 1977) is in effect in Chinese, various movement constraints on the verbal noun in light verb constructions can be accounted for. Furthermore, I compare so-called *light* and *heavy* verb constructions and argue that, contrary to what is widely assumed, these two constructions involve the same verb (with the same lexical and semantic properties). The different syntactic behavior of these constructions will be shown to result from whether or not movement occurs from within the complement of the light/heavy verb. The analysis I provide will offer a principled account of a number of differences between light and heavy verb constructions in Chinese. A possible extension of the analysis to Japanese light verb constructions will be examined at the end of this section.

4.2.1 Some History of the Light Verb Construction

The study of light verb constructions has been well established in Japanese, Korean and Hindi. A typical Japanese light verb construction is shown in (3), where the Theme argument is a clause. A clause is used here to avoid the interfering effect of the so-called double-*o* constraint (see section 4.3.2), which prohibits the co-occurrence of two accusative case-marked elements in the same clause.

(3) Tony-wa   [ookami-ga kuru-to]   HOOKOKU-o   shita
      -TOP   wolf-Nom come-Comp report-ACC   did
    'Tony reported that the wolf was coming.'

According to Grimshaw and Mester (1988), the verb *shita* (the past tense of *suru*) in example (3) does not assign any theta-roles. Although *suru* is a main verb in (3), it does not have an argument structure. This claim is based on the following three observations regarding *suru*. First, *suru* appears to impose no restriction on the theta-role of its subject. According to Grimshaw and Mester, the subject can be Agentive or non-Agentive.[1] Second, the number of arguments and the type of argument structure depend on the verbal noun combining with *suru*. This means that the noun can be derived from intransitive, transitive or ditransitive verbs. Third, the verbal properties of *suru* are quite clear: it assigns accusative case and it is transitive (I will argue below that this property, in fact, provides evidence for the claim that *suru* does assign an external theta-role). This can be seen from the accusative case-marker on the verbal noun (VN) projection (henceforth VNP) in (3). For Grimshaw and Mester, although *suru* assigns (somewhat mysteriously) accusative case to the VNP, the VNP is not an argument. The light verb *suru* only functions as a bearer of verbal inflection for the clause and as a case assigner.

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[1] But see Section 4.2.3.1 for a different proposal in which the subject can only be Agentive.

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If *suru* does not assign any theta-roles, then how can the arguments in (3) get their theta-roles? It has been proposed that it is the VNP which is taken by the light verb as its complement that assigns theta-roles to the arguments in the sentence. For example, in Grimshaw and Mester's terms, the VNP must be a theta-transparent NP, i.e. one that takes arguments outside the nominal domain. Only the light verb *suru* takes a theta-transparent object. Other verbs take only theta-opaque objects, which only allow arguments within the nominal domain. One such case is given in (4). Notice that *suru* can also act as a heavy verb. As such, it takes a verbal noun whose Agent argument is the only argument outside the VNP as in (5). Note that the Genitive marker *-no* here is evidence for an NP-internal position of the Theme clause.

> (4) Tony-wa   Kate-e-no   HANASHI-o wasureta.
>   -Top   -to-Gen talk-Acc   forgot
>   'Tony forgot the talk to Kate.'

> (5) Tony-wa   [[ookami-ga kuru-to]-no   HOOKOKU]-o   shita
>   -Top   wolf-Nom come-Comp -Gen   report –Acc   did
>   'Tony reported that the wolf was coming.'

To distinguish light and heavy verb constructions, Grimshaw and Mester propose the following criterion: a construction qualifies as a light verb construction only if at least one argument *apart from the subject* occurs outside the VNP.[2] As one can see, this is exactly the property that distinguishes (3) from (5). Though in both sentences the subject is at the sentence level, only sentence (3) contains a non-subject argument outside the VNP (cf. the lack of the genitive marker *–no*). Thus only sentence (3) fits the criterion and qualifies as a light verb construction.

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[2] We will see below that this requirement is not quite correct and needs to be modified. But it is sufficient for the examples which contain at least a Theme argument in the clausal domain.

Light verb constructions also show various syntactic differences which distinguish them from their heavy counterparts. For example, in a true light verb construction, the VNP cannot be topicalized, as pointed out by Grimshaw and Mester (1988).[3] Similarly, Saito and Hoshi (2000) point out that the VNP in a light verb construction cannot be dislocated in a cleft construction and it cannot be passivized. The VNP in a heavy verb construction, on the other hand, shows no problem with any of these operations.

Several mechanisms have been suggested to explain the mysterious behavior of the light verb construction, such as Argument Transfer by Grimshaw and Mester (1988), LF incorporation by Saito and Hoshi (2000) and LF lowering by Aihara (2004), among many others. Although the accounts differ in various respects, Grimshaw and Mester (1988) and Saito and Hoshi (2000) both propose that the above syntactic differences between light and heavy verbs are due to some theta-role transferring mechanisms. This is because the arguments at the sentence level have to get theta-roles from the VN, since the light verb itself does not assign any theta-roles. However, since nouns do not usually assign theta-roles outside the nominal domain (due to a locality condition on theta-marking, cf. Chomsky 1981), there has to be a way for the light verb to get theta-roles from the VN and assign them to the arguments. Because of this kind of transmission of theta-roles, there is a tight relationship between the VN and the light verb, which then results in the immobility of the VNP. As for the heavy verb counterpart, since the heavy verb itself assigns theta-roles to its subject and object, it behaves just like a regular verb. Hence no special theta-transfer mechanism is required. The VNP is free to move just like an ordinary object.

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[3] They also point out that the VNP cannot be relativized or modified by a numeral. I do not mention these two properties here for the following reasons: Relativization cannot be applied to Chinese since Chinese uses multiple relativization strategies (see Aoun & Li 2003) which can involve either base-generation or movement. The ban against numeral modification will be discussed in Section 4.2.3.4.

In the following discussion, I will make the claim that there is no distinction between light and heavy verbs (cf. the original proposal by Uchida and Nakayama 1993 for Japanese). Based on data from Chinese, I will show that light and heavy verb constructions involve the same verb, namely a verb which assigns an external theta role to the subject (and an internal theta-role to the verbal noun projection). The same will be shown to hold for Japanese, once certain apparent counter-examples are examined in more detail. Hence I will consider both 'light' and 'heavy' verbs equally heavy.[4] To account for the differences between light and heavy verb constructions noted above, I propose that light verb constructions involve movement of an argument from within the VNP, whereas heavy verb constructions do not involve such movement. The observed differences will be derived from this assumption without postulating two versions—light and heavy—of the same verb. Lastly, based on the properties of light verb constructions in Chinese, I will provide a new analysis of the light verb construction in terms of internal topicalization and remnant movement.

4.2.2   The Chinese Light Verb Construction

In Mandarin Chinese, the light verb construction was first discussed in the descriptive work of Zhu (1985). Zhu points out that there are five verbs functioning as light verbs in Chinese, one of them being *jinxing* ('proceed').[5] As shown in sentence (6), the verb *jinxing* combines with an Agent and a Theme argument.

(6) CSI diaocha-le   zhe-ge   anzi.
    CSI investigate-ASP this-CL case
    'CSI investigated this case.'

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[4] However, for the sake of convenience, I will still use 'light' and 'heavy' as descriptive terms for the two constructions in what follows.

[5] Another light verb which behaves similar to *jinxing* is *zuo* ('do'). Since these two behave similarly, I will only use *jinxing* for illustrations throughout this chapter. The other three 'light verbs' are in fact verbal affixes. See Kuo (2003) for relevant discussion.

The VNP derived from this verb is *diaocha* ('investigation'). Kuo (2003) and Kuo and Ting (2007) have done some preliminary syntactic investigation of the light verb construction in Chinese. There are several possible combinations of the verb *jinxing* ('proceed') and the verbal noun *diaocha* ('investigation'), listed in (7). The authors mentioned above show that in the following examples, only (7a) fulfills the requirement of a true light verb construction as stated in Grimshaw and Mester (1988), since only in (7a) can one find another argument (the Theme argument of the VNP) apart from the subject appearing at the sentence level. In (7b), the presence of the genitive marker *de* indicates that the Theme argument is inside the VNP projection. Lastly, in (7c), there is no overt Theme argument at all. In other words, (7b) and (7c) should be considered 'heavy' verb constructions.

(7)   a. CSI [$_{NP}$ zhe-ge anzi] jinxing-le   [$_{NP}$ diaocha].
          CSI   this-CL case   proceed-ASP   investigation
     b. CSI jinxing-le   [$_{NP}$ zhe-ge anzi-de diaocha].
          CSI proceed-ASP   this-CL case-DE investigation
          'CSI made an investigation of this case.'
     c. CSI   jinxing-le   [$_{NP}$ diaocha].
          CSI   proceed-ASP   investigation
          'CSI made an investigation.'

If only sentence (7a) confirms to the requirement of a light verb construction, a prediction that we can make here is that the VNP in (7a) cannot be topicalized, passivized or dislocated in a cleft construction, just like its Japanese counterpart. These operations should be allowed, on the other hand, in (7b) and (7c), since these examples are heavy verb constructions. This prediction is borne out, as shown from (8) to (10).

(8) VNP topicalization
     a. *[$_{VNP}$ Diaocha]$_i$,   CSI   [$_{NP}$ zhe-ge   anzi] jinxing-le   t$_i$
            investigation CSI   this-CL   case proceed-ASP

b. [$_{VNP}$ Zhe-ge   anzi-de   diaocha.]$_i$,   CSI   jinxing-le   t$_i$
　　 this-CL case-DE investigation CSI proceed-ASP
c. [$_{VNP}$ Diaocha]$_i$,   CSI   jinxing-le   t$_i$
　　 investigation CSI   proceed-ASP

(9) VNP passivization
　　 a. *[$_{VNP}$ Diaocha]   bei   CSI   [$_{NP}$ zhe-ge   anzi] jinxing   le.
　　　　 investigation BEI   CSI   this-CL case   proceed ASP
　　 b. [$_{VNP}$ Zhe-ge   anzi-de   diaocha]   bei   CSI jinxing le.
　　　　 this-CL   case-DE   investigation BEI   CSI proceed ASP
　　 c. [$_{VNP}$ Diaocha]   bei   CSI   jinxing   le.
　　　　 investigation BEI   CSI   proceed   ASP

(10)   VNP in a cleft construction
　　 a .*Shi [$_{VNP}$ diaocha]   CSI   [$_{NP}$ zhe-ge   anzi] jinxing   le.
　　　　 is   investigation CSI   this-CL case proceed   ASP
　　　　 'It is the investigation that CSI has made of this case.'
　　 b. Shi [$_{VNP}$ zhe-ge   anzi-de   diaocha],   CSI jinxing le.
　　　　 is   this-CL case-DE   investigation CSI proceed ASP
　　　　 'It is the investigation of this case that CSI has made.'
　　 c. Shi [$_{VNP}$ diaocha]   CSI   jinxing   le.
　　　　 is   investigation CSI   proceed   ASP
　　　　 'It is the investigation that CSI has made.'

Based on the parallel syntactic behavior between Japanese and Chinese, we can

conclude that the Chinese example in (7a) is a true light verb construction, which is not the

case for (7b) or (7c).

4.2.3   The Analysis

In the previous section, I have shown that Chinese, like Japanese, shows a distinction

between light and heavy verb constructions. Though one may then expect that the previous

analyses of Japanese may be applicable to the above Chinese data, I will provide some new

evidence from both Japanese and Chinese arguing against the previous analyses. Building on

this evidence, I will then suggest an analysis which not only explains the above contrasts but

also offers some new insights into our overall understanding of light verb constructions.

4.2.3.1 'Light' Verbs are not Light

In this subsection, I show that the so called 'light' verb in both Japanese and Chinese

is a true transitive verb which assigns an Agent theta-role to the subject as well as a Theme

theta-role to the verbal noun (cf. Miyagawa 1989 and Tsujimura 1990's accounts for

Japanese in terms of Burzio's generalization).[6] The claim that "light" verbs assign an agent

theta-role, and do so obligatorily, is easily motivated by the data from Chinese. As shown in

Kuo (2003), Chinese shows a strong preference for an Agentive subject with the verb *jinxing*

('proceed'). No matter whether we are dealing with a light or heavy verb construction, the

subject must be an Agent argument. This is shown in (11) and (12).

> (11) a. Jundui pohuai-le   zhe-zuo guji.
>   army   destroy-ASP this-CL historic.spot
>   'The army destroyed this historic spot.'
>   b. Suanyu pohuai-le   zhe-zuo guji.
>   acid rain destroy-ASP this-CL historic.spot
>   'The acid rain damaged this historic spot.'

> (12) a. Jundui [NP zhe-zuo guji]   (a), jinxing-le   [VNP pohuai].
>   army   this-CL historic.spot Mod proceed-ASP   destruction
>   'The army made has made destruction of this historic spot.'
>   b. *Suanyu [NP zhe-zuo guji]   (a), jinxing-le   [VNP pohuai].
>   acid rain   this-CL historic.spot Mod proceed-ASP   destruction
>   'The acid rain has made damage of this historic spot.'

Notice that in (11), the same verb *pohuai* ('destroy') can take both Agentive and non-

Agentive subjects. However, when this verb becomes a verbal noun taken by the light verb

jinxing, as in (12), only an Agentive subject is acceptable. I take this as evidence that the so

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[6] Note that, as I argue in section 4.3.3, I do assume that the verb *suru* comes in two versions - a full agentive
verb which requires an agent argument, and a raising verb, which does not assign an agent theta-role. Crucially,
however, this will lead to two entirely different constructions. What is important for this section is that the light
verb construction under consideration here, i.e., the construction in which the complement of the light verb is
marked with accusative, always involves a fully thematic matrix verb which necessarily assigns an Agent theta
role.

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called 'light' verb does assign a theta-role to the subject. Moreover, the theta-role in question

is Agent. Thus, only Agentive subjects are acceptable.

Turning to Japanese, the question whether the subject of a light verb construction in

Japanese can be non-agentive or not appears to be controversial at first. For example,

Grimshaw and Mester (1988) provide a sentence with a non-agentive subject and judge it as

grammatical, as shown in (13). On the other hand, sentences with a non-agentive subject are

rejected in Saito and Hoshi (2000), as shown in (14).[7]

> (13)   Densha-wa Oosaka-ni TOOCHAKU-o shita.
>   Train-Top Osaka-to arrival-Acc   did
>   'The train arrived in Osaka.'

> (14)   ?*Ya-ga   mato-ni MEITYUU-o shita.
>   Arrow-Nom   target-to strike-Acc   did
>   'The arrow struck the target.'

Recall that in the above approaches, a light verb is considered to be 'light' because it does

not assign any theta-roles (though it should be noted that the question of where the theta-role

of the complement of the light verb—the whole VNP—comes from is typically not

addressed). Sentences such as (13) would hence appear to provide evidence supporting the

claim that at least there is no Agent theta-role assignment from the light verb. However, as

pointed out to me by one of my informants, sentence (13) is, in fact, not as 'perfect' as

indicated in Grimshaw and Mester (1988).[8] Rather, the informant judged the sentence as

degraded (??) and specified that sentence (13) only sounds acceptable when one imagines

that there are people in the train. Hence, although 'the train' is not agentive *per se*, it seems

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[7] One may notice that there is a topic/subject marker difference in these two sentences. However, according to my informant, even if the order is switched (*-wa* becomes *-ga* in (12) and *-ga* becomes *-wa* in (13)), the result is the same.
[8] Sentence (13) is also judged as ungrammatical in Uchida and Nakayama (1993).

to be the case that it can be interpreted as agentive via association with an agent—i.e., the people in the train.

That this interpretation of the marginal acceptability of (13) is on the right track is supported by the contrast between (13) and (15). If an interpretation as 'agent via association' suggested for (13) is impossible, the light verb construction also becomes impossible. That is, (15) is equally ill-formed as (14). Although I cannot offer a detailed semantic account of how to define an 'agent via association', I believe that the data in (13) through (15) are sufficient to support the claim that the light verb construction in Japanese also requires an Agentive subject.

(15)　　?*Nimotsu-wa　　Oosaka-ni　TOOCHAKU-o　shita.
　　　　　package-TOP　Osaka-to　　arrival-ACC　　did
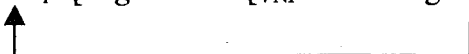　　　　　'The package arrived in Osaka.'

The requirement that subjects in both light and heavy verb constructions be Agents provides strong evidence for the claim that the so called light verb does assign theta-roles. Since 'light' verbs behave exactly in the same way as a heavy verb in terms of theta-role assignment, the 'light' verb is then not light anymore.

This conclusion has some very welcome consequences. If a light verb (whether used in the light or the heavy verb construction—see below) assigns an external theta-role, it then follows (under whatever version of Burzio's Generalization one adopts) that the 'light' verb can also assign accusative case to its complement, the VNP (cf. the Japanese sentence in (3)). In the literature, it has been a mystery how the VNP gets case in a light verb construction (in light of Burzio's generalization). Previous analyses usually resort to explanations based on incorporation. For example, Grimshaw and Mester (1988) point out that the accusative case assigning ability is the only verbal property of the light verb. A light verb is in fact not

equivalent to a verb unless it combines with a VN. This may be why it can be exempt from Burzio's generalization. On the other hand, Saito and Hoshi (2000) resort to a noun incorporation approach suggesting that the accusative case on the VN is licensed via its incorporation to the verb. Compared to these two explanations, the current proposal provides a more natural account of the case on the VNP—since the light verb is a true transitive verb, accusative case on the object is exactly what is expected.

4.2.3.2 Movement Constraints

If the verb in a light verb construction is the same as the verb in a heavy verb construction, why do we observe different syntactic patterns in the two constructions? I propose that the answer lies in whether there is movement of at least one of the internal arguments from within the VNP or not (cf. Uchida and Nakayama 1993 for Japanese). That is, I will argue that Chinese light verb constructions involve the basic structure in (16). I use a transitive VNP as an illustration here.

(16)   Agent Theme$_i$ [*light verb* [$_{VNP}$ ...investigate t$_i$ ...]]

Since this is a transitive VNP, the only non-subject argument is the Theme argument. According to Grimshaw and Mester (1988) as a result of the appearance of the Theme argument at the clausal domain (16) counts as a light verb construction. However, note that the purpose of the 'non-subject argument at the clausal domain' requirement seems to mostly be to serve as a diagnostic for finding out what can be counted as a light verb construction. There is no explanation for why such a requirement exists, in particular why the definition refers to one argument (the Theme argument) in addition to the subject.

Under my proposal in (16), the Theme argument at the clausal domain is exactly the major cause for the differences between a light and a heavy verb construction. Recall that I assume that the subject argument is an argument of the light verb. Hence, the subject does not originate in the verbal noun projection. Given that a light verb construction is formed as in (16), it then follows that an argument of the VN other than the subject has to appear at the clausal domain. For instance, in (7a) (repeated here as (17)), the Theme argument moves out from the VNP, resulting in a light verb construction. (7b) and (7c) (repeated here as (18) and (19), respectively), on the other hand, are not light verb constructions—the former has the Theme argument inside the VNP domain, and the latter has no overt Theme argument at all, hence movement of an argument from within the VNP projection has not occurred in either case.[9]

(17)   a. CSI   [$_{NP}$ zhe-ge anzi]   jinxing-le   [$_{VNP}$ diaocha].
       CSI   this-CL case   proceed-ASP   investigation
       'CSI made an investigation of this case.'
       b. CSI this case$_i$ [$_{VP}$ *proceed* [$_{VNP}$...investigation t$_i$ ...]]

(18)   a. CSI jinxing-le   [$_{VNP}$ zhe-ge   anzi-de   diaocha].
       CSI proceed-ASP   this-CL   case-DE investigation
       'CSI made an investigation of this case.'
       b. CSI [$_{VP}$ *proceed* [$_{VNP}$ this case-DE investigation]]

(19)   a. CSI   jinxing-le   [$_{VNP}$ diaocha].
       CSI   proceed-ASP   investigation
       'CSI made an investigation.'
       b. CSI [$_{VP}$ *proceed* [$_{VNP}$ *pro* investigation]]

Though the movement of the Theme argument appears to be trivial, it causes great differences between (17a) and (18a)/(19a). Once there is an argument moving out of the

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[9] My informants report an implicit argument reading of the VNP in (19a). That is, they know that CSI made an investigation of something, though they do not know what it is. Hence I assume that there is a *pro* inside the nominal domain. But in any case, there is no movement from the nominal domain to the clausal domain in (19a).

VNP, it leaves a trace. Assuming that movement in (20) is subject to the Proper Binding Condition, which requires that traces must be bound at surface structure, we then predict that movement of the VNP will be impossible in (17), since the VNP contains a trace. On the other hand, movement of the VNP should be possible in (18) and (19).[10]

> (20) Proper Binding Condition (PBC) [Fiengo (1974, 1977)]
> In surface structure S_α, if $[e]_{NPn}$ is not properly bound by $[\ldots]_{NPn}$, then S_α is not grammatical.

As we have seen in Section 4.2.2, this is exactly the right prediction. In a true light verb construction, the VNP cannot undergo topicalization, passivization or dislocation in a cleft construction. The examples are repeated from (21) to (23).
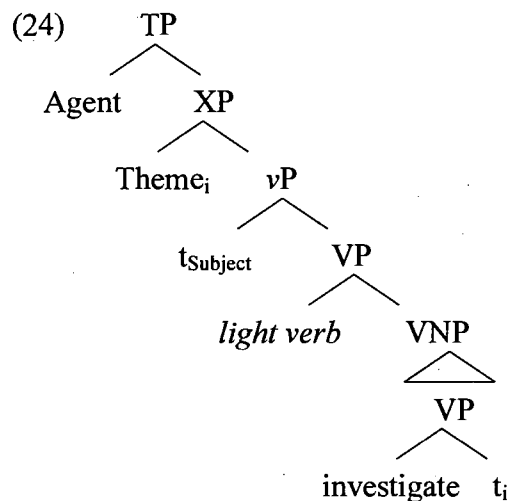
> (21) VNP topicalization
> a. *$[_{VNP}$ Diaocha $t_j]_i$, CSI $[_{NP}$ zhe-ge anzi$]_j$ jinxin-le t_i
>   investigation CSI this-CL case proceed-ASP
> b. $[_{VNP}$ Zhe-ge anzi-de diaocha$]_i$, CSI jinxing-le t_i
>   this-CL case-DE investigation CSI proceed-ASP
> c. $[_{VNP}$ Diaocha$]_i$, CSI jinxing t_i le.
>   investigation CSI proceed ASP

> (22) VNP passivization
> a. *$[_{VNP}$ Diaocha t_j] bei CSI $[_{NP}$ zhe-ge anzi$]_j$ jinxing-le.
>   investigation BEI CSI this -CL case proceed-ASP
> b. $[_{VNP}$ Zhe-ge anzi-de diaocha] bei CSI jinxing-le.
>   this-CL case-DE investigation BEI CSI proceed-ASP
> c. $[_{VNP}$ Diaocha] bei CSI jinxing-le.
>   investigation BEI CSI proceed-ASP

> (23) VNP in a cleft construction
> a .*Shi $[_{VNP}$ diaocha t_j] CSI $[_{NP}$ zhe-ge anzi$]_j$ jinxing-le.
>   is investigation CSI this-CL case proceed-ASP
>   'It is the investigation that CSI has made of this case.'

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[10] I assume the original version of the PBC here, mostly for simplicity. Many accounts have suggested that this condition can be derived from other syntactic properties (see, for instance, Kitahara 1997, Saito 1985, 2003). Whatever mechanism one ultimately adopts to account for PBC effects can presumably be used to account for what I will attribute to the PBC in Chinese. It is also well-known that in certain languages, the PBC only holds for certain types of movement (see, for instance, *Müller's Generalization* that only movement of the same type causes a PBC violation). Since in Chinese, remnant movement of any kind appears to be impossible, I do not use a finer grained distinction in the PBC here.

b. Shi [$_{VNP}$ zhe-ge anzi-de diaocha],   CSI jinxing-le.
    is   this-CL case-DE investigation CSI proceed-ASP
    'It is the investigation of this case that CSI has made.'
c. Shi [$_{VNP}$ diaocha]   CSI jinxing-le.
    is   investigatio CSI proceed-ASP
    'It is the investigation that CSI has made.'

In all the above cases, the VNP projection, which contains a trace, is in a higher position than the moved Theme argument. Because of a violation of the Proper Binding Condition, the sentences are all ungrammatical.

To be more specific, the structure that I propose for (17) is shown in (24). I leave the exact location of the Theme argument open for now (also see section 4.2.3 for details on the structure of the VNP).

(24)

```
              TP
            /    \
        Agent     XP
                /    \
          Theme_i     vP
                    /    \
             t_Subject     VP
                         /    \
                  light verb    VNP
                              /  __  \
                               VP
                             /    \
                      investigate   t_i
```

A crucial part of this structure is the presence of a full-fledged VP within the VNP. I assume that this VP is headed by a true verb, which assigns whatever thematic roles and subcategorization properties it is specified for. The theta-role of the Theme argument is hence assigned by the verb 'investigate' directly. Evidence for the existence of a regular verb (phrase) in the VNP comes from examples such as (25) in Japanese. As shown, in addition to the genitive marker *-no* (which is attached to any category within the noun phrase in Japanese; see below), arguments of the verb retain inherent Case markers or prepositions

assigned by the verb. That is, the phrase *to the villager* is marked with the Case/preposition

assigned by the verb plus the genitive marker (see also Section 4.2.3.3 for further supporting

evidence).

> (25) Tony-no murabito-e-no [ookami-ga kuru-to]-no   KEIKOKU
>   Tony-Gen villager-to-Gen wolf-Nom come-Coop-Gen warning
>   'Tony's warning to the villagers that the wolf is coming'

A major difference between the current proposal and the previous approaches is that there is

no need to employ Argument Transfer or incorporation for the Theme argument to get its

theta-role. Furthermore, because there is no unbreakable relationship between the light verb

and the VNP, the prediction is that the VNP 'is' free to move as long as it does not violate

the PBC. And this is exactly the case. For example, if the Theme is topicalized to a position

higher than the topicalized VNP, the sentence becomes grammatical again. This is because

now the trace in the VNP can be bound by the Theme argument.[11]

> (26) [$_{NP}$ zhe-ge anzi]$_j$, [$_{VNP}$ diaocha t_j]$_i$, CSI jinxing-le t_i
>   this-CL case   investigation   CSI proceed-ASP
>   'CSI made an investigation of this case.'

The example in (26) shows that the previous proposals resorting to theta-transferring

or obligatory incorporation are not tenable. The verbal noun in fact 'can' move, as long as the

Proper Binding Condition is satisfied, and hence does not form an incorporation structure

with the light verb. As for the heavy verb counterparts like (18a) or (19a), there is no trace in

---

[11] Based on the classification of external topic constructions from Chapters 1 and 2, the sentence in (26) could have another structure involving a base-generated external topic associated with a *pro* in the object position of the VN. But given that the following example with a numeral inside the VNP results in ungrammaticality, the option of base-generation should be excluded. As we will see in Section 4.2.3.4, numerals block movement of a Theme argument from within the VNP. If a base-generated topic structure were available, the sentence would be predicted to be grammatical, contrary to the fact.

> (i)   *[$_{NP}$ zhe-ge anzi], [$_{VNP}$ san-ge   diaocha],   CSI jinxing-le.
>   this-CL case   three-CL investigation CSI proceed-ASP
>   'CSI made three investigation of this case.'

the VNP projection since there is no movement involved. The VNP projection can then undergo movement without causing any violations.

4.2.3.3 The 'Extra' Argument

An important question not addressed so far is what kind of movement the Theme argument undergoes. Notice that in (7a), repeated here as (27), the Theme argument is located in a position between the subject and the verb. This is reminiscent of the internal topic position that I have discussed in Chapter 2.

(27)   CSI [NP zhe-ge anzi] jinxing-le   [NP diaocha].
         CSI   this-CL case   proceed-ASP   investigation
         'CSI made an investigation of this case.'

Recall that there are two internal topic positions: the higher one is between TP and vP, and the lower one is in Spec vP. Note that if the VNP movement in (27) involves topicalization, this has to be topicalized to the position higher than vP, since the Theme argument in (27) must be higher than negation. This is shown in (28).

(28)   a. CSI zhe-ge anzi meiyou jinxing diaocha.
          CSI this-CL case not   proceed investigation
          'CSI did not make an investigation of this case.'
        b. *CSI meiyou zhe-ge anzi jinxing diaocha.
          CSI not   this-CL case proceed investigation

Indeed, there is also independent evidence showing that this moved Theme argument in (27) is a topic. Recall that only G(eneralized)-specificity nouns (including definite NPs, universally quantified NPs and *most* or *some* NPs) can occur as topics. Other NPs, like NPs with bare numeral determiners, decreasing NPs, and NPs with modified numeral determiners, are impossible as topics. As shown in (29) and (30), the moved element can only be a G(eneralized)-Specificity noun.

(29)   Definite NP
        Geruisen zhe-ge anzi jinxing-le   diaocha.
        Grissom this-CL case proceed-ASP investigation
        'Grissom made an investigation of this case.'

(30)   Decreasing NPs
        *Geruisen wu-ge-yixia-de   anzi jinxing-le   diaocha.
         Grissom five-CL-under-DE case proceed-ASP investigation
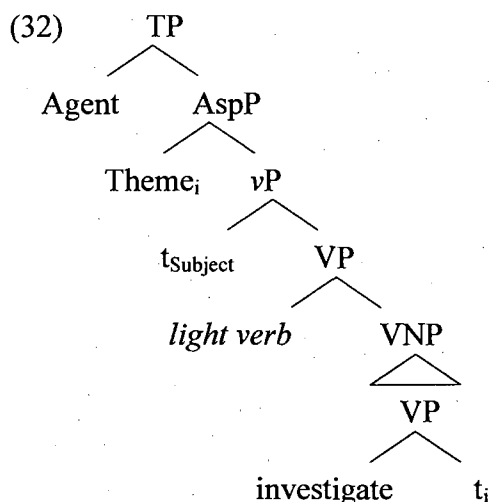   'Grissom made an investigation of less than five cases.'

As predicted, a non-G(eneralized)-Specificity noun is possible in the heavy verb

construction—i.e., when the Theme argument remains within the VNP. Notice that now the

VNP is in a postverbal position, as shown in (31).

(31)   Geruisen jinxing-le   [wu-ge-yixia anzi-de diaocha].
        Grissom proceed-ASP five-CL-under case-DE investigation
        'Grissom made an investigation of less than five cases.'

The above paradigm is challenging for previous approaches involving base-

generation of the arguments in the clausal domain plus argument transfer or incorporation.

Since the theta-roles are assigned to the arguments at the clausal level (after some theta-

transfer mechanism), there is no a priori reason for why the Theme argument can only be

base-generated in the clausal domain if it has the topic property. Assuming, on the other

hand, that movement to the IP-domain is topic movement, as suggested in Chapter 2, and that

light verb constructions involve movement, these facts follow.

The full clausal structure of (27) is shown in (32). Following the proposal in Chapter

2, I assume that the Theme argument moves to the Specifier position of the higher Aspect

projection.[12]

---

[12] Recall that in Chapter 2, I have suggested that internal topic constructions may involve direct movement of
the topic NP to Spec,AspP or base-generation of the topic NP in Spec,Asp plus association of the topic with an
operator chain. In this chapter, I only pursue the option of direct topic movement. Parts of the analysis in this
chapter can be translated directly into the operator movement analysis, but some other parts of the analysis will
need further investigation under the operator movement analysis (e.g., certain locality restrictions on topic
movement in light verb constructions; see below). I leave a full reconciliation for future research.

(32)

```
           TP
          /  \
      Agent   AspP
             /  \
         Theme_i  vP
                 /  \
          t_Subject  VP
                    /  \
              light verb  VNP
                         /\
                        /  \
                       /    \
                      VP
                     /  \
              investigate  t_i
```

If the Theme argument is moving out of the VNP, in addition to the internal topic

position, it should be able to target other positions as long as such positions are available.

Thus the Theme argument can be externally topicalized in (33), passivized in (34), or

focalized in (35) and (36).[13]

> (33)　[NP zhe-ge　anzi], CSI jinxing-le　　[VNP diaocha].
> 　　　　this-CL case　CSI proceed-ASP　　　investigation
> 　　　　'CSI made an investigation of this case.'
>
> (34)　[NP zhe-ge　anzi] bei　CSI jinxing-le　　[VNP diaocha].
> 　　　　this-CL case　BEI CSI proceed-ASP　　　investigation
> 　　　　'This case was made an investigation by CSI.'
>
> (35)　CSI lian [NP zhe-ge anzi] dou jinxing-le　　[VNP diaocha].
> 　　　　CSI even　　this-CL case　all　proceed-ASP　　investigation
> 　　　　'CSI even made an investigation of this case.'
>
> (36)　Shi [NP zhe-ge　anzi] CSI jinxing-le　　[VNP diaocha].
> 　　　　is　　this-CL case　CSI proceed-ASP　　investigation
> 　　　　'It is this case that CSI made investigation of.'

Since under the current account in all of the examples in (33) through (36) movement is

involved, it is predicted that subsequent movement of the VNP projection is subject to the

Proper Binding Condition. As shown in (37) to (40), this prediction is borne out. Once the

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[13] The usage of the BA construction as in (i) is quite marked in this context, since, as discussed in Chapter 3, the BA construction is subject to various semantic restrictions and this context is not quite compatible with these restrictions.

> (i)　　??CSI ba zhe-ge anzi jinxing-le　　diaocha.
> 　　　　CSI BA this-CL case　proceed-ASP investigation
> 　　　　'CSI made an investigation of this case.'

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verbal noun is moved to a position higher than the moved Theme argument, the examples become ungrammatical.

(37) *[$_{VNP}$ diaocha t$_i$], [$_{NP}$ zhe-ge anzi]$_i$, CSI jinxing-le.
Investigation this-CL case CSI proceed-ASP
'CSI made an investigation of this case.'

(38) *[$_{VNP}$ diaocha t$_i$], [$_{NP}$ zheege anzi]$_i$ bei CSI jinxing-le
investigation this-CL case BEI CSI proceed-ASP
'This case was made an investigation by CSI.'

(39) *[$_{VNP}$ diaocha t$_i$], CSI lian [$_{NP}$ zhe-ge anzi]$_i$ dou jinxing-le
investigation CSI even this-CL case all proceed-ASP
'CSI even made an investigation of this case.'

(40) *[$_{VNP}$ diaocha t$_i$], shi [$_{NP}$ zhe-ge anzi]$_i$ CSI jinxing-le.
investigation is this-CL case CSI proceed-ASP
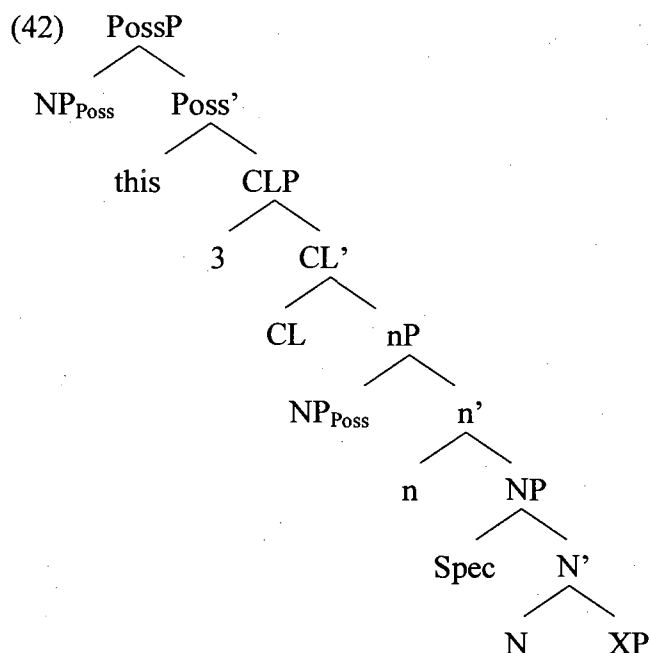'It is this case that CSI made investigation of.'

The above paradigm further supports the current movement account and its correlation with the PBC.

4.2.3.4 The Nominal Domain

In this section, I will discuss the structure of VNPs in light verb constructions such as (41a) and heavy verb constructions such as (41b,c). In (41b) the Theme argument of the verbal noun *investigation* stays within the nominal domain, where it is marked with the genitive marker -*de*, and in (41c) the VNP takes a *pro* as the Theme argument.

(41) a. CSI [$_{NP}$ zhe-ge anzi] jinxing-le diaocha.
CSI this-CL case proceed-ASP investigation
'CSI made an investigation of this case.'
b. CSI jinxing-le [$_{NP}$ zhe-ge anzi-de diaocha].
CSI make-ASP this-CL case-DE investigation
c. CSI jinxing-le [$_{NP}$ *pro* diaocha].
CSI make -ASP investigation
'CSI made an investigation.'

Let us review the structure of the nominal domain in Chinese first. The nominal structure that I have proposed in Chapter 3 is repeated here as (42).[14]

(42)
```
        PossP
       /    \
  NP_Poss   Poss'
           /    \
        this     CLP
                /   \
               3    CL'
                   /   \
                 CL     nP
                       /   \
                  NP_Poss   n'
                           /   \
                          n     NP
                               /   \
                            Spec    N'
                                   /   \
                                  N     XP
```

I will now address some issues about nominalization in Chinese: Saito et al. (2008) point out that multiple genitive arguments of a verbal noun are not allowed in Chinese, as shown in (43a). As I show in (43b) and (43c), only one argument can occur in the nominal domain and it has to be interpreted as the Theme argument.
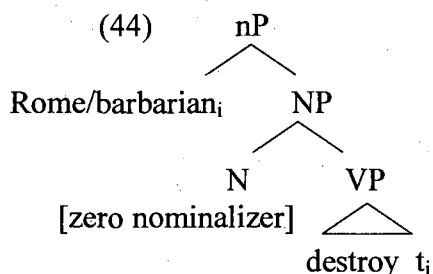
(43)   a. *manzu-de   Luoma-de   huimie
          barbarian-DE   Rome-DE   destruction
          'the barbarians' destruction of Rome'
       b. Luoma-de   huimie
          Rome-DE   destruction
          'the destruction of Rome'
       c. manzu-de   huimie
          barbarian-DE   destruction
          'the destruction of barbarians' Not: 'the destruction by barbarians'[15]

---

[14] Recall that the possessor can be generated either in Spec, nP or Spec, PossP. The head of the ClP is realized as a classifier and its specifier hosts the numeral.

[15] To express 'the destruction by barbarians' in Chinese, one has to use a relative clause.
       (i)   [Manzu   jinxing t_i] de   huimie_i
                barbarian proceed   DE   destruction
                'the destruction by barbarians'

I suggest the following structure for (43).

(44)
```
              nP
             /  \
Rome/barbarian_i   NP
                  /  \
                 N    VP
        [zero nominalizer] /\
                      destroy t_i
```

As shown in (44), I assume that nominalization of the verb only affects the VP layer, excluding the external argument. Hence, the -*de* marked arguments in (43b,c) can only be interpreted as Theme, and not Agent. The claim that nominalization applies only to VP (excluding external arguments) is further supported by the fact that Chinese does not allow nominalization of intransitive verbs, as shown in (45). If nominalization could be applied to *v*Ps, examples such as (45), which include the external argument, should be grammatical.

(45) *Geruisen-de xiao
       Grissom-DE laugh
       'Grissom's laughter'
       cf. Geruisen-de xiaosheng
   Grissom-DE laugh-sound

Furthermore, given that all NPs and APs within a noun phrase are marked with -*de* in Chinese (see Chapter 3), I propose that this marker is attached to XPs in specifiers of the nominal domain. Different from Saito et al. (2008)'s proposal that –*de* is the head of DP, I assume that -*de* is a contextual marker for the nominal domain (inspired by their proposal for Japanese –*no*). Importantly, the fact that possessors in Chinese, which can be located higher or lower than the numeral and classifier, are also marked with –*de,* shows that –*de* is not in a fixed position (cf. Chapter 3, Section 3.3.5 and (42)). Furthermore, -*de* can simultaneously occur on more than one element (an AP and a possessor), hence a unique fixed position is again questionable. Rather, I suggest that the contextual marker -*de* is attached to XPs in

Spec, *n*P and Spec, PossP, as well as to XPs adjoined to *n*P and PossP. Lastly, I assume that

NPs must be licensed either by Case or -*de* marking. Returning to (43b,c), the Theme

argument of *destroy* is not licensed in its base position, since there is no *v* head which could

assign accusative case. The Theme argument therefore needs to move to a position in which

it can be marked by -*de*—i.e., movement to Spec, *n*P will occur as indicated in (44).

Now with these special properties of Chinese verbal nouns in mind, let us return to

the light verb constructions in (41a). The initial structure for the examples in (41a) is given in

(47). As before, I assume that a theme NP (*this case*) cannot be licensed in its base position

(cf. (46)) and movement is required.

(46) *CSI jinxing-le   diaocha   zhe-ge anzi.
      CSI proceed-ASP investigation this-CL case
      'CSI made an investigation of this case.'

As shown in (47), the closest position for the Theme argument 'this case' is Spec, *n*P, a

licensing position for noun phrase internal NPs, hence movement to this position takes place.
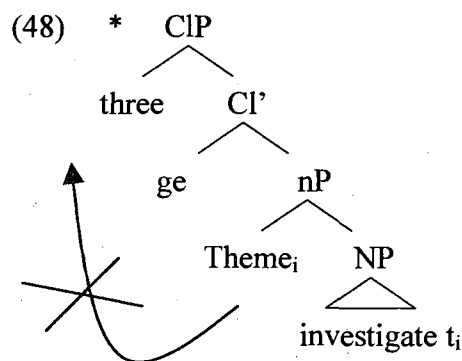
(47)   nP
        /   \
   this case$_i$ n'
              /   \
             n   VP
                  /   \
              investigate t$_i$
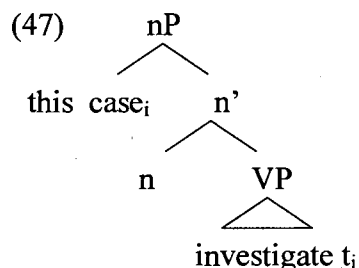
At this point, there are two ways the derivation can proceed. First, if the Theme

argument remains in Spec, *n*P, the -*de* marker has to be inserted to indicate that the Theme

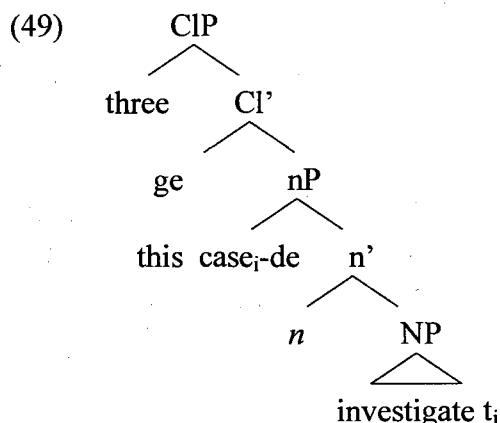argument is inside the nominal domain. This will result in the heavy verb construction.

Second, note that the Theme NP is now at the edge of the VNP (the object of the light

verb). Assuming that noun phrases are phases (see also Chapter 3), further movement from

this position is expected to be possible. For example, the NP can then undergo topicalization

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form the edge position. This proposal makes the following interesting prediction: if a higher functional projection such as a ClP is added on top of nP, movement of the Theme argument in Spec, nP should be blocked by the PIC, and only the heavy verb construction should be possible. Recall that I assume that movement is subject to the PIC in Chomsky (2001): In a phase α with a head H, the domain of H is not accessible to operations outside α, only H and its edge (=specifiers/adjuncts) are accessible to such operations. I also assume that noun phrases are phases. To be more specific, the highest projection of the nominal domain constitutes a phase (see Chapter 3). This follows under Bobaljik and Wurmbrand's (2005) assumption that the complement of a lexical verb, whatever its category, is a phase. Also recall that in Chapter 3, I have argued that the nominal domain could also include a PossP (above a ClP), which can host and license a possessive NP. However, crucially, the projection of functional structure is subject to Structural Economy. Therefore, a PossP will only be projected if a possessor theta-role is assigned.[16]

These two derivations are illustrated in (48) and (49) respectively.

(48) * ClP

Tree diagram:
- ClP
  - three
  - Cl'
    - ge
    - nP
      - Theme$_i$
      - NP
        - investigate t$_i$

---

[16] Unless a demonstrative is present, see Chapter 3.

(49)

```
              ClP
             /    \
          three    Cl'
                  /   \
                ge     nP
                      /   \
              this case_i-de   n'
                              /   \
                             n     NP
                                  /   \
                            investigate t_i
```

This prediction is indeed borne out. In addition to the difference in the movability of the VNP (see Section 4.2.2), there is another important difference between light and heavy verb constructions pointed out by Grimshaw and Mester (1988) for Japanese. A typical Japanese light verb construction does not allow numeral modification inside the VNP. The genitive marker indicates that the numeral phrase is inside the VNP. Without the genitive maker the numeral phrase is taken to be an adverbial outside the VNP, which makes the sentence grammatical.

(50)　*? John-wa　[ookami-ga　kuru-to]　　[_VNP sankai-no　　keikoru]-o shita
　　　　John-Top　wolf –Nom　come-Comp　　　three-time-Gen warn-Acc　suru
　　　　'(lit) John made three warning that wolves are coming.'
　　cf. John-wa　[ookami-ga　kuru-to]　　sankai　　[_VNP keikoru]-o shita.
　　　　John-Top　wolf-Nom　come-Comp　three-time　　warn-Acc suru

Kuo and Ting (2007) apply the same test to Chinese and find that the generalization from Japanese also holds in Chinese, as shown in (51).

(51)　a. *Geruisen zhe-ge anzi jinxing-le　　san-ge　　diaocha.
　　　　Grissom　this-CL case proceed-ASP　three-CL investigation
　　　　'Grissom made three investigation of this case.'
　　b. Geruisen jinxing-le　　san-ge　　zhe-ge anzi-de　diaocha.
　　　　Grissom　proceed-ASP　three-CL this-CL　case-DE　investigation
　　c. Geruisen jinxing-le　　san-ge　　diaocha
　　　　Grissom　proceed-ASP　three-CL investigation
　　　　'Grissom made three investigations.'

Furthermore, the same blocking effect is found when the VNP involves a 'demonstrative-numeral-classifier'.

(52) a. ?*CSI zhe-ge anzi jinxing-le   na-san-ge   diaocha.
          CSI this-CL case proceed-ASP that-three-CL investigation
          'CSI made that investigation to this case.'
      b. CSI jinxing-le   na-san-ge   zhe-ge anzi-de   diaocha.
         CSI procced-ASP that-three-CL this-CL case-DE investigation
      c. CSI jinxing-le   na-san-ge   diaocha.
         CSI proceed-ASP that-three-CL investigation

The contrasts above are exactly what the current analysis predicts.

How about adjective phrases inside the nominal domain? In chapter 3, I proposed that adjectives are relative clauses adjoined to *n*P or PossP. Given that assumption, an adjective can co-occur with a possessive NP in Spec, *n*P (or Spec, PossP), and under the standard definition of the PIC, the possessor would still be at the edge of the nominal domain (since it is in the specifier of the phase head). The prediction thus is that adjectives should not block possessor raising. As shown in (53), this is correct.

(53)   CSI zhe-ge anzi jinxing-le   zixi-de   diaocha.
       CSI this-CL case proceed-ASP careful-DE investigation
   'CSI made an very careful investigation of this case.'

For completeness it should also be noted that in examples such as (53), there is an alternative structure, which is also in accordance with the current proposal. There is evidence showing that the adjective phrases in (53) are in fact adverbials modifying the VP. As shown in (54), when *diaocha* ('investigate') is used as a verb, the adverb 'carefully' occurs in the same form as the adjective in (53)—i.e., adverbs at the clausal level are also marked by -*de*.

(54)   CSI zixi-de   diaocha-le   zhe-ge anzi.
       CSI carefully-DE   investigate-ASP this-Cl case
       'CSI investigated this case carefully.'

Furthermore, the contrasts in (55) show that when the Theme argument is inside the nominal domain, it has to be higher than the 'adjective'. If the Theme argument is in Spec, *n*P, the 'adjective' can only be lower than it.

(55) a. CSI jinxing-le   zhe-ge   anzi-de   zixi-de   diaocha
         CSI proceed-ASP this-CL case-DE carefully-DE investigation
         'CSI made an careful investigation of this case'
     b. *CSI jinxing-le   zixi-de   zhe-ge anzi-de diaocha
          CSI proceed-ASP carefully-DE this-CL case-DE investigation

The ungrammaticality of the order [*careful*—NP] in (55) contrasts sharply with the general possibility of the order AP—NP$_{Poss}$ in simple (non deverbal) noun phrases (see Chapter 3). Hence I propose that *careful* in (53) and (55a) is in fact not an adjective but rather an adverb adjoined to the VP within the VNP. In this structure, the adverb is lower than Spec, *n*P, and the moved Theme argument is at the edge of the VNP. Once the Theme argument reaches Spec, *n*P, it can either stay there (marked with –*de*) or move on, if there is independent motivation for the movement.

(56)
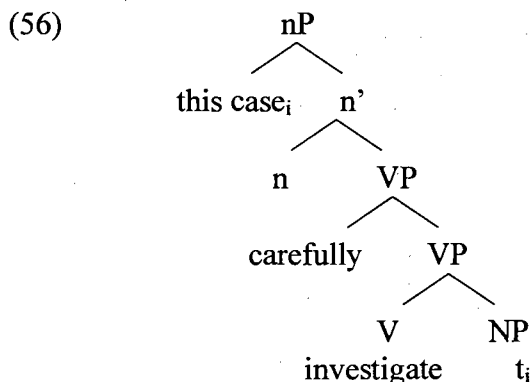
Note that the very low position of the 'adjective' also further supports the proposal that we need a VP structure inside the VNP.[17]

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[17] This also implies that once the VP is nominalized, arguments need to move to be licensed. But adjuncts are licensed independently and hence do not need to move (recall that the -*de* marker on adverbs is not the same as the contextual -*de* marker in the nominal domain).

Last, as pointed out by Zhu (1985), verbal nouns in Chinese are always transitive. Zhu lists some common VNPs for the light verb *jinxing* ('proceed').

(57)   VNPs for *jinxing* ('proceed'): *diaocha* ('investigation'), *yanjiu* ('research'), *dengji* ('registration'), *douzheng* ('fighting'), *jiaoyu* ('education'), *zhidao* ('guidance'), *guancha* ('observation'), *hezuo* ('incorporation'), and *jiaoshe* ('negotiation')

If nominalization applies to all VPs, one would expect to see ditransitive VNPs as well. However, such constructions do not seem to exist. The structure proposed for light verb constructions in Chinese, together with one further assumption, allows us to derive this property. Consider the structure of a nominalized ditransitive VP in (58) and let us assume that multiple specifiers are not available in Chinese. With this, we may have a way to explain the absence of ditransitive VNPs in Chinese. For a distransitive VNP, there are two internal arguments which need to move to Spec, *n*P. However, if the VNP (the *n*P) is a locality domain for movement (e.g, a phase as suggested in Chapter 3) and the language does not allow multiple specifiers, then there is simply no way for both arguments to move out of the nominalized VP. There is only one Specifier position available in *n*P. If it is taken by the Goal argument, the Theme argument will be stuck inside the VP and end up without case and without -*de*. This is illustrated in (58).[18]

---

[18] Though the presence of PossP should be excluded by Structural Economy, once it is motivated, a question arises how it interacts with transitive VNs. There are the following possibilities. First, a possessor is generated in Spec, PossP, which means Spec, PossP is not available for either Goal or Theme argument. This derivation still excludes the possibility of transitive VNs since only one argument can move out of the VNP. However, if there is a determiner in the head of PossP, or a full AP adjoined to PossP, presumably we can have an argument in Spec, *n*P and another argument in Spec, PossP. It is not quite clear to me how to exclude this possibility. Perhaps Spec, PossP is reserved for Possessors (if it is not added simply to make successive cyclic movement possible, see Chomsky 2001), hence it can only host a base-generated possessor, but not a Goal or Theme argument moved from the nominalized VP. I leave this issue for further research.

(58)   Chinese ditransitive VNP

```
       *      nP
      ▲     ╱    ╲
    Goalⱼ       n'
              ╱    ╲
            n        VP
                   ╱  ╲
                 tⱼ  V  Theme
```
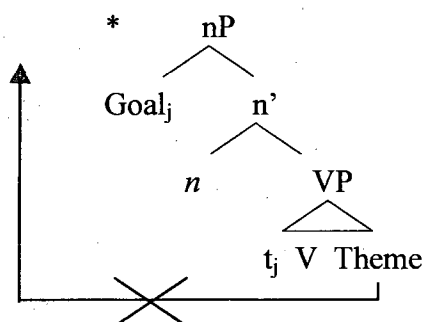
This account makes the following two predictions: First, if the ban against multiple specifiers is a general phenomenon in Chinese, we would expect that multiple external topics moved across an embedded CP should also be impossible. As shown in (59b), this prediction is borne out. Whereas external topicalization of two objects is possible within a single clause (cf. (59b)), movement of both objects across a clause-boundary is prohibited, as shown in (59c). The ungrammaticality of (59c) follows from the ban against multiple specifiers: for a topic to move long-distance, it must move through the edge of CP (CP being a phase). If there is only one intermediate landing site available in Spec, CP, it is correctly predicted that only one topic can escape the embedded CP (if only one of the objects moves, the sentence is grammatical, as shown in (59d)).[19]

(59)   a. Geruisen wen-guo Sala zhe-xie   wenti.
           Grissom ask-ASP   Sara this-PCL question
           'Grissom asked Sara these questions.'
        b. Sala, zhe-xie wenti,   Geruisen wen-guo.
           Sara this-PCL question Grissom ask-ASP
        c. *Sala, zhe-xie wenti,   wo renwei Geruisen wen-guo
            Sara this-PCL question I   think   Grissom ask-ASP
            'I think that Grissom asked Sara these questions.'
        d. Zhe-xie   wenti,   wo renwei Geruisen wen-guo Sala.
           This-PCL question   I   think   Grissom ask-ASP Sara

---

[19] One exception to the ban against multiple specifiers might be Spec, *v*P if one Spec, *v*P is Thematic (cf. Bošković 2008). If topic movement is analyzed as direct movement of the topic XP, an object topic must pass through Spec, *v*P to avoid a PIC violation. Since the subject also occupies a specifier of *v*P, a multiple specifier configuration would be required. I leave the issue of whether multiple specifiers exist in *v*P open.

Second, this account predicts that the restriction to transitive VNPs should not arise in languages that do allow multiple specifiers. I will show below that this is exactly what we find in Japanese.

4.2.3.5 Summary

In this section, I have proposed a movement analysis of light verb constructions based on several properties of Chinese light verb construction. I argued that light and heavy verb constructions do not involve different verbs. Rather, the difference in their syntactic behavior depends on whether an argument moves out of the VNP or not. If one argument moves out of the VNP, a light verb construction arises; if all arguments of the VNP stay within the VNP, the heavy verb construction arises. In the next section, I will present a preliminary extension of the current proposal to light verb constructions in Japanese.

4.3 Back to Japanese

It is well known that the verb *suru* in Japanese has several usages. For example, in addition to a light verb or a heavy verb that we have introduced above (cf. (3) and (5)), it can also function as a verbal suffix.

(60)   Ame-ga   huri-sae shita
        rain-Nom fall-even did
        'It even rained.'

I will come back to this usage of *suru* at the end of this section.

Furthermore, unlike Chinese, which only allows transitive VNs in a light verb construction, Japanese allows a wider range of VNPs. As is well known, in Japanese the verbal noun can be intransitive, transitive or ditransitive (cf. Grimshaw and Mester 1988 and

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Yoshida and Nakayama 1993). The ditransitive examples in (63b) and (63c) should both be considered light verb constructions under Grimshaw and Mester's definition, since one argument apart from the subject occurs outside the VNP.

(61)　Grissom-ga　BENKYOO-o shita.
　　　Grissom-Nom study-Acc　did
　　　'Grissom did a study.'

(62)　Sara-wa　Grissom-to　AISEKI-o　shita
　　　Sara-Top　Grissom-with table-sharing did
　　　'Sara shared a table with Grissom.

(63)　a. ?Grissom-ga　[Sara-e-no　toti-no　ZYOOTO]-o　shita.
　　　　　Grissom-Nom Sara-no-Gen land-Gen giving-Acc　　did
　　　b. Grissom-ga　Sala-ni/-e [$_{VNP}$ toti-no　ZYOOTO]-o shita.
　　　　　Grissom-Nom Sara-to/-to　　land-Gen giving-Acc　did
　　　　　'Grissom gave a piece of land to Sara.'
　　　c. ??Grissom-ga　Sala-ni/-e toti-o　ZYOOTO-o shita.[20]
　　　　　Grissom-Nom Sara-to/-to land-Acc giving-Acc　did

We will see that light verb constructions with ditransitive VNPs are much more complicated than Grimshaw and Mester have proposed.

4.3.1 Three Derivations for Ditransitive VNPs

In this section I will first discuss the interaction between Japanese light verb constructions and the current movement account. The PBC will be the main test to investigate if any movement from the nominal domain to the clausal domain has occurred.[21]

Since, as I have argued, the light verb *suru* in Japanese also assigns an Agent theta-role, intransitive examples such as (61) are expected. That is, the Agent argument is base-generated at the clausal domain and gets a theta-role from the light verb. We also predict that movement of the VNP will not cause a PBC effect. This prediction is borne out in (64).

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[20] This sentence is not perfect because of the violation of the surface double-*o* constraint. See Section 4.3.2 for further discussion.

[21] The PBC, as I have been using it, is too simplistic to cover all facts of remnant movement in Japanese (see Saito 1985, 1989, Kitahara 1997). However, it will be sufficient for the cases to be discussed here. I will have to leave a full investigation of various types of movement in the light verb constructions for future research.

(64)　Benkyoo-o$_i$　Grissom-ga　　t$_i$　shita.
　　　　Study-Acc　　Grissom-Nom　　　did

A Japanese light verb construction with a transitive VNP is also straightforward under

the current account. An example of this sort is repeated in (65).[22]

(65)　Tony-wa　[ookami-ga kuru-to]$_k$　[$_{VNP}$ t$_k$ HOOKOKU]-o　shita
　　　　-TOP　　wolf-Nom come-Comp　　　report-ACC　　did
　　　'Tony reported that the wolf was coming.'

The only non-subject argument is the CP clause. Since it does not have a –*no* maker, it is at

the clausal domain, and under my account, it has moved there from within the VNP.

Significantly, if one tries to scramble the VNP to the sentence initial position, the sentence

becomes ungrammatical, as shown in (66). Under my approach, this ungrammaticality results

from a violation of the Proper Binding Condition. The trace of the Theme argument in the

VNP cannot be properly bound since the binder is in a lower position than the trace.

(66)　*[$_{VNP}$ t$_k$ HOOKOKU]-o$_i$　Tony-wa　　[ookami-ga kuru-to]$_k$　　t$_i$　shita
　　　　　report-ACC　　　　　　-TOP　　wolf-Nom come-Comp　　did

On the other hand, if the Theme argument is also scrambled to a position higher than

scrambled VNP, the sentence improves. The contrast is shown in (67).[23]

(67)　?[[ookami-ga kuru-to]$_k$]$_j$　[$_{VNP}$ t$_k$ HOOKOKU]-o$_i$　Tony-wa　　t$_j$　t$_i$　shita
　　　　wolf-Nom come-Comp　　　　report-ACC　　　　-TOP　　　did

This improvement also follows from the PBC since the Theme argument can now bind its

trace in the VNP.

So how about ditransitive VNPs in Japanese? Recall that Grimshaw and Mester

(1988) argue that, as long as there is a non-subject argument outside the VNP, we are dealing

with a light verb construction. Hence both sentences in (68) should count as light verb

constructions. In (68a), both the Goal and the Theme arguments are outside the VNP. The

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[22] Thanks to Daiko Takahashi (p.c.) for constructing the paradigm from (65) to (67).
[23] Also see Sato (1993), who discusses examples like (67) and marks them as grammatical.

sentence is slightly deviant because of the surface double-*o* constraint. On the other hand, (68b) only has the Goal argument at the clausal domain. The Theme argument is still inside the VNP projection since it appears with the genitive marker -*no*.

(68)   a. ??Taroo-ga   musuko-ni   hudoosan-o   jooto-o   shita.
             Taroo-Nom   son-Dat   real.estate-Acc   alienation-Acc did
             'Taro alienated real estate to his son.'
         b. Taroo-ga   musuko-ni   hudoosan-no   jooto-o   shita.
             Taroo-Nom   son-Dat   real.estate-Gen alienation-Acc did

However, as pointed out by Uchida and Nakayama (1993), if the only non-Agent argument at the sentence level is a dative argument, as in (68b), the VNP in fact can undergo topicalization or scrambling, which does not conform to the characteristics of 'light' verb constructions postulated by Grimshaw and Mester (1988). For example, scrambling of the VNP of (68b) is possible, as shown in (69b). On the other hand, scrambling of the VNP is impossible if both the Goal and the Theme argument occur outside the VNP projection, as in (69a).

(69)   a.*Jooto-o   Taroo-ga   musuko-ni hudoosan-o t_i shita.
           alienate-Acc Taro-Nom   son-Dat   real.estate -Acc   did
         b. [Hudoosan-no   jooto]$_i$-o   Taroo-ga   musuko-ni t_i shita.
           real.estate -Gen   alienate-Acc   Taroo-Nom   son-Dat   did

Assuming that movement of the VNP in Japanese is also subject to the PBC, the above contrast seems to indicate that the Goal argument in (68b) has not undergone movement from within the VNP. I propose that this is indeed the case in (68b)/(69b), and that the Goal argument is base-generated in the clausal domain (similar to the proposal regarding the Agent argument). If there is no movement, there is no trace. Hence topicalization or scrambling of the VNP is not remnant movement, and thus does not result in ungrammaticality. The structure is shown in (70). The Goal argument is base-generated at the sentence level, possibly co-indexed with a *pro* inside the VNP.

(70)   Agent   Goal$_i$ [pro$_i$ Theme-no [$_{VNP}$ verb] *suru*]

In line with Uchida and Nakayama (1993), in the structure of (70), I propose that the Goal

argument gets a *recipient* or *provider* theta-role from the light verb *suru* (recall that *suru* is

actually a full thematic verb and it should hence be able to combine with whatever arguments

main verbs license). This is independently supported by the following example:

(71)   Tony-wa   Kate-ni   nanika-o   shita
            -TOP   -to   something-Acc did
        'Tony did something to Kate.'

Example (71), which does not involve a VN, shows that the light verb can take a 'Goal'

argument. In both (72) and (73), the light verb constructions, the only non-Agent argument is

the dative/PP argument. However, the VNP in (72) can be topicalized, but not the one in

(73).

(72)   a. Tony-wa   Kate-ni   HANASHI-o shita.
            Tony-Top Kate-to talk-Acc   did
            'Tony talked to Kate.'
        b. [HANASHI-wa]$_i$ John-wa   Kate-ni t$_i$ shita.
            Talk-Top   Tony-Top Kate-to   did

(73)   a. Tony-ga   Tookyoo-ni/kara ryokoo-o shita.
            Tony-Nom Tokyo-to/from   trip-Acc did
            'Tony made a trip to/from Tokyo.'
        b. *[Ryokoo-wa]$_i$ Tony-ga   Tookyoo-ni/kara   t$_i$ shita.
            Trip-Top   Tony-Nom Tokyo-to/from   did

One important difference between (72) and (73) is that the dative/PP argument in (72) can be

interpreted, at least metaphorically, as a recipient (i.e., Kate is the 'recipient' of the talk),

while the dative/PP argument referring to location in (73) cannot receive such an

interpretation.[24] Assuming the dative/PP arguments in (73) cannot get a recipient/provider

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[24] To determine whether a dative argument or a PP can receive a theta-role from the verb *suru* is unfortunately
not trivial. Note first that, according to my informant, whether the recipient is animate or inanimate does not
appear to matter. Furthermore, the examples below show that certain locative PPs can count as 'recipients' or
'providers', since they behave on a par with (72) regarding scrambling of the VNP. Thus in (i), the island must

theta-role from the light verb *suru*, this then means that these dative/PP arguments can only originate as arguments of the VN. Since the dative/PP arguments occur in the clausal domain in (73), they must have undergone movement out of the VNP, and hence, further movement of the VNP will be correctly ruled out by the PBC.

Going back to the ditransitive example in (68b), the dative/PP argument is also interpreted as a recipient. Hence it can get a theta-role from *suru*. That's why there is no PBC violation when we move the VNP. If, on the other hand, the Theme argument also appears outside the VNP projection, as in (68a), movement from within the VNP must have occurred, and hence the PBC correctly predicts further movement of the VNP to be impossible in this context (as shown in (69)).

Distransitive VNPs in Japanese are generally quite compatible with the claim that the dative/PP argument can be interpreted as a recipient or provider. Some ditransitive VNs are: *hookoku* (report'), *keikoku* ('warning'), *jooto* ('alinate'), *teikyo* ('offer'), *ryakudatu* ('plunder'), *haitatsu* ('deliver'). Hence it is not surprising that distransitive VNPs allow a construction like (70), since what appears to be a Goal argument of the VNP can also get the recipient or provider theta-role from the light verb *suru*. Furthermore, under the current

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be seen, again metaphorically, as the 'recipient' of the delivery, and in (iii), 'the bank' must count as the 'provider' of the plunder. On the other hand, it is much harder to see how in (73) *Tokyo* could count as a recipient (*-ni*) or a provider (*-kara*) of a trip. Further data are necessary to show whether these intuitive interpretations of 'recipient' and 'provider' are correct, and how these notions can be defined more precisely.

(i) Taroo-ga   shima-e [nimotsu-no   haitatsu]-o   shita.
     Taroo-Nom island-to package-Gen delivery-Acc did
     'Taroo delivered the package to this island.'

(ii) ?[nimotsu-no   haitatsu]-o   Taroo-ga   shima-e shita.
      package-Gen delivery-Acc Taroo-Nom island-to did

(iii) Taroo-ga   ginkoo-kara [genkin-no ryakudatsu]-o shita.
       Taroo-Nom bank-from   cash-Gen plunder-Acc did
       'Taroo stole the cash form the bank.

(iv) [genkin-no ryakudatsu]-o Taroo-ga   ginkoo-kara shita.
      cash-Gen plunder-Acc Taroo-Nom bank-from   did

proposal, we should expect that the matrix dative/PP argument and the VNP-internal Dative/PP argument can co-occur. This prediction is borne out in (74).

(74) ?Taroo-wa Hanako-ni [Yumiko-e-no   yubiwa-no purezento]-o shita.
       -Top   -to   -to-Gen ring-Gen   present-Acc did
      'lit: Tarro did [present of a ring to Yumiko] to Hanako.'

In sentence (74), the VN assigns a goal theta-role to *Yumiko* inside the VNP (cf. the genitive marker *-no*). Hence the dative/PP argument *Hanako*, which is interpreted as a recipient, has to take the Goal theta-role from the light verb *suru*.

To summarize, light verb constructions with a dative/PP argument at the clausal level are potentially ambiguous between a structure in which the dative/PP argument is base-generated as a matrix recipient/provider argument and a structure in which the dative/PP originates as an argument of the VN. I have shown that, in at least one context (namely the 'trip' example in (73)), only the latter option is available. In other contexts, movement of the VNP is the major test to distinguish between the two structures: if the VNP can undergo movement, the dative/PP must originate outside the VNP; if the VNP cannot undergo movement (and there is no other argument moving out of the VNP), the dative/PP argument must originate as an argument of the VNP. The three possible scenarios predicted by this account are illustrated in (75).

			Movement of the VNP:
(75)	a.	[Goal-no Theme-no VN]-o suru	no PBC violation
	b.	Goal-ni Theme-o$_i$ [t$_i$ VN]-o suru	PBC violation
	c.	Dative/PP$_j$-ni [pro$_j$ Theme-no VN]-o suru	no PBC violation

After discussing the nominal domain in Japanese, we will see how the paradigm in (75) can be accounted for under the current analysis.

4.3.2 Inside the Nominal Domain Again

Let us explore the structure of the nominal domain in Japanese first. Saito et al. (2008) note that, unlike Chinese, Japanese does allow multiple arguments appearing in the verbal noun nominal domain. The multiple genitive structure (25) is repeated here as (76).

(76) Tony-no   murabito-e-no   [ookami-ga kuru-to]-no   KEIKOKU
      Tony-Gen villager-to-Gen wolf-Nom come-Comp-Gen warning
      'Tony's warning to the villagers that the wolf is coming'

Following their proposal, I assume that -*no* is a contextual marker, just like –*de* in Chinese. Various examples in Japanese show that adjuncts within the nominal domain are marked with –*no* as well. Hence, the treatment of -*no* as a suffix, which indicates that some element is inside the nominal projection, is well motivated. I leave it open here whether -*no* marking requires movement to Spec, *n*P or whether arguments can be marked by -*no* in their base positions.

Consider now a nominalization structure such as (76). This example shows two important differences between Japanese and Chinese. First, since the deverbal noun phrase in (76) can contain the external argument of the verb, nominalization of *v*Ps must be possible in Japanese, in contrast to Chinese (see section 4.2.3.4). *Tony*, the external argument, is interpreted as the Agent in (76). Second, I have suggested that the reason why there are no ditransitive light verb constructions in Chinese is that Chinese does not allow multiple specifiers of the *n*P. If -*no* marking in Japanese, like -*de* marking in Chinese, is associated with *n*, we can conclude that multiple specifiers of *n*P are possible in Japanese.[25] We will see below that this conclusion is supported by the Japanese light verb construction, independently of the issue of where -*no* marking is licensed.

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[25] The claim that Japanese allows multiple specifiers is in line with standard accounts assuming that multiple specifiers are available in TP (Fukuda 1991, Morikawa 1993, Takahashi 1994, 1996 and Ura 1996 and many others).
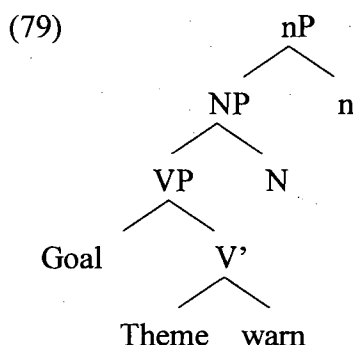
Now back to the light verb construction in Japanese. Example (65) is repeated here as (77).

(77)   Tony-wa   [ookami-ga kuru-to]   HOOKOKU-o   shita   = (65)
        -Top   wolf-Nom come-Comp report-Acc   did
       'Tony reported that the wolf was coming.'

As in Chinese, I propose that in Japanese, nominalization of the VN applies to VP only, excluding the external argument of the verb (and any verbal functional projections above the VP). This is supported by the fact that the Agent argument gets its theta-role from the light verb in Japanese as well. To have the Agent inside the nominal domain in a light verb construction is simply impossible, as shown in (78).

(78)   *[Tony-no   murabito-e-no   [ookami-ga kuru-to]-no   KEIKOKU]-o shita
         Tony-Gen villager-to-Gen wolf-Nom come-Comp-Gen warning-Acc did

Under the current proposal, (78) is excluded, since the Agent theta-role of the light verb is not assigned.[26] Furthermore, since there is no overt nominalizer, I assume again that the VP is nominalized by a null nominalizer, as in (79).

(79)

```
                    nP
                   /  \
                NP      n
               /  \
            VP      N
           /  \
      Goal      V'
               /  \
         Theme      warn
```

If the nP is a complement of a light verb, at this point various options arise, which will allow us to account for the three scenarios given in (75), repeated as (80).

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[26] A structure that would be compatible with the thematic properties of the light verb construction would be a structure with an Agent argument at the clausal level and an embedded vP in the VNP which obligatorily contains a PRO/*pro* subject. This structure, however, would predict that embedded objects that do not move to the clausal domain should occur with accusative case in addition to -*no*, which is not the case. I therefore assume that the simplest structure is a bare embedded VP, as in Chinese.

				Movement of the VNP:

(80) a. [Goal-no Theme-no VN]-o suru   no PBC violation
      b. Goal-ni Theme-o$_i$ [t$_i$ VN]-o suru   PBC violation
      c. Dative/PP$_j$-ni [pro$_j$ Theme-no VN]-o suru   no PBC violation

First, if all arguments remain within the VNP (the nP in (79)), they will be marked with -*no* and the heavy verb construction is derived. Since there is no movement of any argument out of the nominal domain, no PBC violation arises if the VNP undergoes further movement.

Second, the scenario in (80c) is also straightforward. The Goal argument is base-generated at the clausal level (possibly co-indexed with a *pro* argument within the VNP). Both arguments of the embedded verb (*pro* and the Theme) again remain within the VNP, and hence the –*no* maker will be realized on the Theme. Since no movement from the nominal domain is involved, further movement of the VNP will not result in a PBC violation.
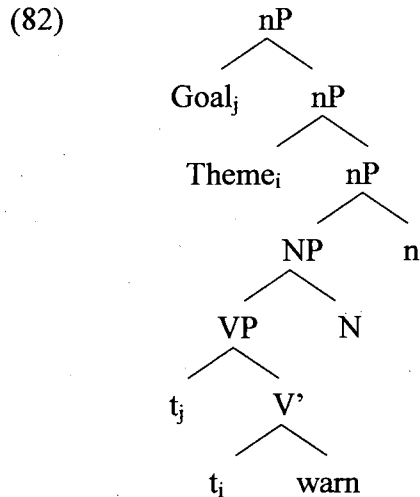
Lastly, the case in (80b) is a little bit tricky. Since we have an option to generate the Goal argument at the clausal domain, (80b) may have the following two derivations in (81). Notice that either derivation will—correctly—result in a PBC violation.[27]

(81) a. Goal$_i$-ni Theme$_j$-o [t$_i$ t$_j$ VN]-o suru   PBC if VNP moves
      b. Dative/PP$_j$-ni Theme$_j$ [pro$_j$ t$_j$ VN]-o suru   PBC if VNP moves

In both derivations, the Theme argument moves from within the VNP to the clausal level. I suggest that this movement is possible since Japanese allows multiple specifiers (including multiple Spec, nP). As shown in (82), both Goal and Theme start out in the embedded VP and undergo movement to Spec, nP.[28]

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[27] Although both options are possible, it seems that base-generation of the dative/PP argument in the clausal domain is preferred, which can be seen from the (mild) contrast between (83a) and (83b).

[28] There is a controversy whether in Japanese the 'Theme-Goal' order is derived by scrambling (cf. Fukui 1993, Hoji 1985, Saito 1985, 1992, Tada 1989, 1993) or whether both 'Goal-Theme' and 'Theme-Goal' orders are base-generated (cf. Miyagawa 1997). I assume the former here. According to my informant, as long as both arguments are inside the nominal domain, either the 'Goal-Theme' or the 'Theme-Goal' order is possible. The latter case, though, is slightly degraded (one question mark).

(82)

```
                    nP
                   /  \
              Goal_j    nP
                       /  \
                  Theme_i   nP
                           /  \
                         NP     n
                        /  \
                      VP     N
                     /  \
                   t_j    V'
                         /  \
                       t_i    warn
```

At this point, the Goal is at the edge of the *n*P, and from this position, it can undergo further movement without violating the PIC. Since the Theme is also at the edge of the *n*P it can also undergo movement. The derivation in (81b) is similar, with the only difference being that the embedded dative argument (*pro*) does not move; only the Theme argument moves to Spec, *n*P and further to the matrix clause.

The current analysis provides a simpler way to explain a certain paradigm in Japanese. Because of the nature of their approaches, Grimshaw and Mester (1988) and Saito and Hoshi (2000) both resort to a Thematic Hierarchy to explain the contrast in (83). According to these approaches, sentence (83c) is ungrammatical because the order of the arguments does not obey the Hierarchy of 'Agent > Goal > Theme'. (83a) and (83b) are fine since the order of the arguments conforms to the hierarchy. Under the current movement approach, there is no need to resort to this special mechanism. (83a) has the structure in (80c) while (83b) has the structure in (80a). Both structures are allowed.

(83) a. Kate-ga   Tony-ni/-e [toti-no   zyooto]-o   shita.
         Kate-Nom John-to/-to land-Gen giving-Acc did
         'Kate gave a piece of land to Tony.'
      b. ?Kate-ga   [Tony-e-no   toti-no   zyooto]-o shita.
         Kate-Nom Tony-no-Gen land-Gen giving-Acc did

c. *Tony-ni/-e [Kate-no toti-no zyooto]-o shita.
 Tony-to/-to Kate-Gen land-Gen giving-Acc did

However, (83c), violates the Theta-Criterion since the light verb does not combine with a subject, hence does not discharge its Agent theta role. The same violation can be observed in the following sentence even if the Dative/PP argument is inside the VNP (cf. (78)). To rule out sentence (84), previous approaches resort to a stipulation that the subject theta-role of the VNP has to be realized at the clausal domain, which follows, of course, without any stipulation if we assume, as I have done here, that light verbs are full thematic verbs.

(84)   *[Kate-no Tony-e-no toti-no zyooto]-o shita.
       Kate-Gen Tony-to-Gen land-Gen giving-Acc did

Furthermore, the current account also provides an explanation for the strength of the violation in (85). Recall that the two question marks in the following example result from the so-called surface double-*o* constraint. This is noted by Sells (1988).

(85)   ??Kate-ga Tony-ni toti-o zyooto-o shita.
       Kate-Nom Tony-ni land-Gen giving-Acc did

As shown by Harada (1973) and Kuroda (1978) and many others, there are two kinds of double-*o* constraints in Japanese: an *abstract* double-*o* constraint violation and a *surface* double-*o* constraint violation. In (86), when the causative verb combines with a transitive verb, two accusative marked arguments of this complex predicate construction result in ungrammaticality.

(86)   a. John-ga   hon-o   yomu.
          John-Nom book-Acc read
          'John reads a book.'
       b. Mary-ga   [John-ni/*-o hon-o   yom]-aseta.
          Mary-Nom John-to-Acc book-Acc read-made
          'Mary made John read a book.'

On the other hand, the –*o* marked NP in (87a) is a locative adverbial, not an argument. When combining the adverbial with a causative verb with another -*o* marked NP, there is only a mild deviation.

(87) a. John-ga   hamabe-o aruku.
John-Nom beach-on walk
'John walks on the beach.'
b. Mary-ga   [John-ni/??-o hamabe-o aruk]-aseta.
Mary-Nom John-to/-Acc beach-on walk-made
'Mary made John walk on the beach.'

(Saito and Hoshi 2000: 270)

The generalization regarding the above examples is that a strong double-*o* constraint violation arises when two arguments of the same predicate are marked with -*o*. Arguments of different predicates or adverbials only create a weak double-*o* constraint violation. As pointed out by Saito (2006), since we only observe a surface double-*o* constraint violation in (85), this implies that one of the accusative marked NPs is not an argument of the light verb. I have argued that the accusative marked VNP is an argument of the light verb since the light verb behaves just like a heavy verb. So the only suspect left is the Theme argument. Under the current proposal, we have a simple explanation for the above conclusion. The Theme argument is not an argument of the light verb because it is assigned a theta-role by the VN. The fact that it can appear at the clausal domain is due to the option of movement out of VNPs.

4.3.3 A Further Generalization

In this section, I discuss some examples which are not immediately accounted for by the analysis provided so far. I will suggest that there is a generalization regarding the ordering between elements at the clausal domain and within the VNP, which will provide an

initial analysis of these facts. A full account of the generalization has to be left for future research.

The generalization we find is summarized abstractly in (88). Note that in all the cases I will discuss, XP can be base-generated either at the clausal domain or within the VNP, whereas YP must be base-generated within the VNP. Two phrases, XP and YP, can occur in either order when both are inside the VNP (cf. (88a) and (88b)) or when both are at the clausal level (cf. (88c) and (88d)). If, on the other hand, one phrase stays within the VNP and one phrase occurs at the clausal level, the only possible order is the order where the phrase that can be base-generated at the clausal level occurs at the clausal level, and the phrase base-generated VNP-internally remains within the VNP (cf. (88e) vs. (88f)).

(88) a. Subject [XP-no   YP-no   VN]-ACC   *light verb*
     b. Subject [YP-no   XP-no t_{YP} VN]-ACC   *light verb*
     c. Subject XP   YP   [(t_{XP}) t_{YP} VN]-ACC   *light verb*
     d. Subject YP   XP   [(t_{XP}) t_{YP} VN]-ACC   *light verb*
     e. Subject XP   [YP-no   VN]-ACC   *light verb*
     f. *Subject YP   [XP-no t_{YP} VN]-ACC   *light verb*

The impossibility of (88f) might suggest that there is a locality restriction on moving YP across XP. However, the problem with this approach is that, as shown by (88b) (and (88d)), movement of YP across XP *is* possible in principle (but see discussion below). Hence, it would be hard to find a reason for why in (88b), further movement of YP to the matrix domain is excluded. Rather, I propose that the correct generalization that will capture (88) is that there is an 'all or nothing' constraint on movement to the clausal domain in light verb constructions. The 'all or nothing' constraint then accounts (88a) through (88e): in (88a) and (88b), neither XP nor YP move to the clausal domain; in (88c) and (88d), both XP and YP move to the clausal domain; finally, in (88e), given the option of base-generating XP at the clausal domain, again none of the elements move to the clausal domain. On the other

hand, the 'all or nothing' constraint is necessarily violated in (88f): movement to the clausal

domain must take place (YP can only be base-generated within the VNP), however, only one

element (YP) moves, and the other element (XP) remains within the VNP.

The first context that illustrates the paradigm in (88) involves constructions in which

XP is a *with*-PP and YP is a Goal argument. Recall that the dative argument in example (89a)

cannot be base-generated at the sentence level because it cannot be interpreted as a recipient

or provider and scrambling of the VNP is impossible. (89b) involves the same construction,

with an additional *with*-PP, which can be associated either with the light verb *suru* or the VN

trip. Evidence for the claim that the PP can be an argument of the light verb is given in (89c),

which involves scrambling of the VNP, stranding the *with* PP. Since this is possible, it must

be possible to generate the PP as an argument of the light verb.

(89)   a. Tony-ga   Tokyo-ni/kara ryokoo-o shita.
           Tony-Nom Tokyo-to/from trip-Acc did
           'Tony made a trip to/from Tokyo.'
      b. Taroo-ga   Mary-to [Tokyo-e-no   ryokoo]-o shita.
           Taroo-Nom Mary-with Tokyo-to-Gen trip-Acc did
      c. [Tokyo-e-no   ryokoo]-o Taroo-ga   Mary-to   shita.
           Tokyo-to-Gen trip-Acc   Taroo-Nom Mary-with did

The examples in (90), illustrate the paradigm in (88). As shown in (90a) through (90f), all

combinations are possible, except the one in (88f)/(90f), which violates the 'all or nothing'

constraint.

(90)   a. Taroo-ga   [Mary-to-no   Tokyo-e-no   ryokoo]-o shita.
           Taroo-Nom Mary-with-Gen Tokyo-to-Gen trip-Acc did
      b. Taroo-ga   [Tokyo-e-no   Mary-to-no   ryokoo]-o shita.
           Taroo-Nom Tokyo-to-Gen Mary-with-Gen trip-Acc did
      c. Taroo-ga   Mary-to   Tokyo-ni ryokoo-o shita.
           Taroo-Nom Mary-with Tokyo-to trip-Acc did
           'Taroo made a trip to Tokyo with Mary'
      d. Taroo-ga   Tokyo-ni Mary-to   ryokoo-o shita.
           Taroo-Nom Tokyo-to Mary-with trip-Acc did

e. Taroo-ga   Mary-to   [Tokyo-e-no   ryokoo]-o shita.
   Taroo-Nom Mary-with Tokyo-to-Gen trip-Acc   did
f. ??Taroo-ga   Tokyo-e [Mary-to-no   ryokoo]-o shita.
   Taroo-Nom Tokyo-to   Mary-with-Gen trip-Acc   did

The second context illustrating the 'all or nothing' constraint involves examples in

which XP is a numeral phrase and YP is the Theme argument of the VN. In light verb

constructions, numeral phrases can either occur at the clausal domain (in which case they are

interpreted as event modifiers) or within the VNP. I assume that numeral phrases can be

base-generated at the clausal domain or be moved there via scrambling. The example in

(91b) shows that Japanese numeral modifiers can undergo scrambling like other XPs.

(91)   a. Tony-wa   san-satu no   hon-o   katta.
           Tony-Top three-CL Gen book-Acc bought
           'Tony bought three books.'
        b. San-satu, Tony-wa   hon-o   katta.
           three-CL   Tony-Top book-Acc bought

Saito et al. (2008) argue that the numeral modifier behaves like an adjunct in the

nominal domain because it cannot undergo NP-ellipsis. They propose that in order for NP-

ellipsis to be possible, the argument 'Kyoto' in (92) has to move Spec DP. And then the

complement of the DP is elided. But this movement is not available for adjuncts. Hence the

complement in (93) cannot undergo NP-ellipsis.

(92)   [Rooma no   hakai] -wa   [Kyooto no   ~~hakai~~] -yorimo hisan   datta
        Rome   Gen destruction-Top   Kyoto Gen destruction-than miserable was
        'Rome's destruction was more miserable than Kyoto's.'

(93)   *Taroo-wa   iti-niti-ni   [san -satu no hon] -o   yomu ga,
             -Top one-day-in   three-CL Gen book-Acc read though
        Hanako-wa   [go -satu no ~~hon~~] -o yomu
             -Top   five-CL no book-Acc read
        'Taroo reads three books in a day, but Hanako reads five.'

<div align="right">(Saito et al. 2008: 253)</div>

Let us now turn to the distribution of numeral phrases in combination with Theme arguments. The paradigm is given in (94).

(94)   a. John-wa [$_{VNP}$ sankai-no   [ookami-ga kuru-to]-no keikoru]-o   shita.
          John-Top three-time-GEN wolf-Nom come-Comp-GEN warn-Acc did
          '(lit) John made three warnings that wolves are coming.'
    b. John-wa [$_{VNP}$ [ookami-ga kuru-to]-no   sankai-no keikoru]-o   shita.
          John-Top wolf-Nom come-Comp-GEN three-time-GEN warn-Acc did
    c. John-wa   sankai   [ookami-ga kuru-to]   [$_{VNP}$ keikoru]-o shita.
          John-Top three-time wolf-Nom come-Comp   warn-Acc did
    d. John-wa [ookami-ga kuru-to]   sankai   [$_{VNP}$ keikoru]-o shita.
          John-Top wolf-Nom come-Comp three-time   warn-Acc did
    e. John-wa   sankai [$_{VNP}$ [ookami-ga kuru-to]-no   keikoru]-o shita.
          John-Top three-time   wolf-Nom come-Comp-GEN warn-Acc did
    f.*? John-wa [ookami-ga kuru-to]   [$_{VNP}$ sankai-no   keikoru]-o shita
          John-Top wolf –Nom come-Comp   three-time-Gen warn-Acc did

As shown in (94), again, all combinations of numeral and Theme are possible. As long as the numeral and the Theme argument stay in the same domain, the sentences are fully acceptable. The only exception is the order where the numeral is within the VNP and the Theme has moved out—i.e., the order that violates the 'all or nothing' constraint.

The last context that provides evidence for the 'all or nothing' constraint involves constructions in which XP is a Goal argument, and YP is a Theme argument. The paradigm is given in (95). This paradigm is complicated by the fact that the occurrence of the Theme argument at the clausal level causes a mild double -o constraint violation. However, importantly, speaker judgments are very sharp in that the violation in (95f) is much stronger than the mild double -o constraint violation in (95c) or (95d). Thus, this contrast again supports the existence of the 'all or nothing' constraint.

(95)   a. ?Kate-ga   [Tony-e-no   toti-no   zyooto]-o shita.   = (83b)
          Kate-Nom Tony-no-Gen land-Gen giving-Acc did
          'Kate gave a piece of land to Tony.'
    b. ?Kate-ga   [toti-no   Tony-e-no   zyooto]-o shita.
          Kate-Nom land-Gen Tony-no-Gen giving-Acc did

c. ??Kate-ga   Tony-ni/-e toti-o   [zyooto]-o shita.   = (85)
     Kate-Nom Tony-to/-to land-Gen giving-Acc did
d. ??Kate-ga   toti-o   Tony-ni/-e [zyooto]-o shita.
     Kate-Nom land-Gen Tony-to/-to giving-Acc did
e. Kate-ga   Tony-ni/-e [toti-no   zyooto]-o shita.   = (83a)
     Kate-Nom John-to/-to land-Gen giving-Acc did
f. *Kate-ga   toti-o   [Tony-e-no   zyooto]-o shita.
     Kate-Nom land-Acc Tony-to-Gen giving-Acc did

To conclude, the facts discussed in this section support the generalization that there is an 'all or nothing' constraint in effect in constructions involving light verb movement to the clausal domain. I would also like to suggest a tentative explanation for this generalization. The relevant paradigm is repeated here as (96).

(96)	a.	Subject	[XP-no	YP-no	VN]-ACC	*light verb*
	b.	Subject	[YP-no	XP-no t_{YP}	VN]-ACC	*light verb*
	c.	Subject	XP	YP	[(t_{XP}) t_{YP}	VN]-ACC	*light verb*
	d.	Subject	YP	XP	[(t_{XP}) t_{YP}	VN]-ACC	*light verb*
	e.	Subject	XP	[	YP-no	VN]-ACC	*light verb*
	f.	*Subject	YP	[XP-no	t_{YP}	VN]-ACC	*light verb*

For (96b), if we assume that the YP moves to an adjoined position of the same phrase where XP is located, or if they are both located in the Specifiers of the same head, YP in fact does not really move across XP (cf. the mechinism of equidistance). The same explanation can be applied to (96d). Note that the fact that YP moves across the trace of XP does not pose a problem here (c.f. (96c) and (96d)), if one assumes Chomsky's (2001) proposal that traces do not count as interveners. Hence, the only problematic case in (96) is (96f) since YP here does move across XP (from the nominal domain to the clausal domain), which can then be ruled out as a locality violation.

At any rate, what is important here is that once we adopt the all or nothing constraint (which may be derivable from independent assumptions), the analysis suggested for light verb constructions in Chinese can be extended to Japanese.

4.3.4 The 'VNP'-*suru* Construction

One final piece of data from Japanese may count as a good ending for the current proposal. As I mentioned at the beginning of this discussion, there is another usage of the verb *suru* ('do'). Different from the light verb/heavy verb usage that we have seen in the above discussion as in (97a), the verb *suru* can attach to a VNP directly, as in (97b).

(97)   a. Tony-ga   BENKYOO-o suru.
            Tony-Nom   study-Acc   do
            'Tony does a study.'
      b. Tony-ga   BENKYOO-suru.
            Tony-Nom   study-do
            'Tony studies.'

In the literature, the structure in (97b) is called the 'incorporation' or the 'compounding' construction. There are several interesting characteristics of this construction. First, notice that there is no accusative marker on the VNP in (97b). Second, there is no Agent requirement for the subject. Thus, the ungrammatical (13) and (14), repeated as (98) and (99), become grammatical when using this construction, as shown in (100) and (101).

(98)   ?*Densha-wa Oosaka-ni TOOCHAKU-o shita.
        Train-Top   Osaka-to   arrival-Acc   suru
        'The train arrived in Osaka.'

(99)   ?*Ya-ga   mato-ni   MEITYUU-o shita.
        Arrow-Nom   target-to   strike-Acc   did
        'The arrow struck the target.'

(100)   Densha-wa Oosaka-ni TOOCHAKU-shita.
        Train-Top   Osaka-to   arrival-   suru
        'The train arrived in Osaka.'

(101)   Ya-ga   mato-ni   MEITYUU-shita.
        Arrow-Nom   target-to   strike-   did
        'The arrow struck the target.'

Last, if the VNP is a transitive, the Theme argument cannot remain inside the VNP, as in (102).

(102) a. *Tony-wa   suugaku-no   benkyoo-shita.
Tony-Top math-Gen   study-did
'Tony studied math.'
b. Tony-wa   suugaku-o   benkyoo-shita.
Tony-Top   math-Acc   study-did

These facts receive a straightforward account under the current proposal. I propose that the so-called VN in this *suru* construction is not a nominal in any sense, but rather a simple bare VP complement—that is, there is no nominal projection above the 'VN'. If there is no nominal domain at all above the 'VN', it immediately follows that the complement of the light verb cannot receive accusative case. Second, it follows that there is no genitive/-*no* marker available for an argument of the embedded verb, and hence the Theme argument must move out of the embedded VP to the sentence level (cf. (102)). Finally, (100) and (101) show that the subject in this construction does not necessarily get its theta-role from the light verb. Rather, the light verb here seems to act as a raising verb, which combines with a simple VP. This is shown in (103). Since there is no case available inside the VP, and there cannot be a genitive projection, either, the Theme argument must move to Spec, TP to get Nominative case.

(103)
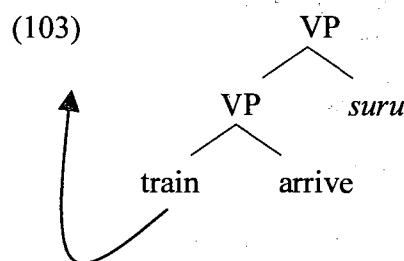
This 'VN'-*suru* construction shows nice contrasts with the VN-o *suru* construction discussed in this chapter. First, it supports my claim that the verb in the VN-o *suru*

construction obeys Burzio's generalization. If there is an accusative marker on the VN, then the verb *suru* must assign the Agent theta-role. That's why (98) and (99) are bad. On the other hand, if, as suggested here, *suru* can also function as a raising verb, non-Agent subjects are possible; however, accusative case on the complement of the light verb will then be impossible. Hence the complement of a raising light verb cannot be an NP, but it can be a VP from which raising of the non-Agent arguments in (100) and (101) is possible.[29] Furthermore, the contrast between the VN-o *suru* and the 'VN'-*suru* constructions also nicely illustrates my proposal for the internal structure of VN. For the VN-o *suru* construction, the VNP is a real noun phrase. Hence it can be marked with case and involve -*no* marking of phrases embedded in it. For the 'VN'-*suru* construction, the VNP is a simple VP, hence no accusative case or -*no* marking can be found.

4.3.5   Summary and Some Implications of the Current Analysis

In this section, I have applied the current movement approach to the Japanese light verb construction. If what is proposed here is on the right track, a number of special properties of the light verb *suru* noted by Grimshaw and Mester receive a straightforward explanation. Contra many previous accounts, I have shown that light verbs do assign theta-roles, crucially, a theta-role to the subject, and that is why light verb constructions also license accusative case on their complements. Furthermore, it is true that the verbal noun can be intransitive, transitive or ditransitive (cf. Grimshaw and Mester 1988 and Yoshida and

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[29] I leave open here whether examples such as (97b) involve the raising *suru* combining with a *v*P complement from which the subject moves to the matrix predicate, or the agentive non-raising *suru* combining with a bare VP complement. Since, in the 'VN'-*suru* construction movement of the verb phrase is never possible, this may point to the conclusion that the first option is correct, that is, that in the VN-*suru* construction without accusative, the light verb never assigns an external theta-role, hence the subject (whether an underlying external or internal argument) always has to originate in the complement of the light verb, hence further movement of the verbal projection is excluded by the PBC.

Nakayama 1993), but this is not because the light verb does not assign any theta-roles. Under the current proposal, this is a result of theta-role assignment by both the light verb and the verbal noun. The Theme argument always gets the theta-role from the verbal noun. The Agent argument always gets the theta-role from the light verb. Finally, Dative marked arguments, can get their theta-role from the VNP (if they are inside the VNP) or the light verb, if they are interpreted as recipient or provider arguments.

The analysis presented in Chapters 3 and 4 has some interesting consequences for the theory of Case licensing. I have argued that noun phrases base-generated in a nominal domain can undergo movement to either the *v*P domain (possessor raising) or the TP/IP domain (light verb construction and possessor raising). In that position, moved NPs realize the Case typically associated with that domain. This is most clearly displayed in Korean where *v*P possessors end up with accusative and TP possessors with nominative case. In the current analysis, movement to these positions is not Case driven. In all constructions, the moved NPs would also be fully licensed within the nominal domain—as we have seen, in all cases, movement is optional (modulo information structure properties), and the moved NPs can also stay within the nominal domain, where they are fully licensed if marked with the contextual markers *-de* (Chinese), *-no* (Japanese), and *-uy* (Korean). The question one might ask is why possessors and arguments of a VN then move to the noun phrase external domain and how they enter into a Case relation with a higher functional head there. The answer to the first question may be that movement is not Case driven but motivated by the need of these NPs to end up in an appropriate topic position (Chinese) or by whatever triggers scrambling in Japanese and Korean (I have left it open whether the topicalization analysis can also be extended to Japanese and Korean). This claim is supported by the information structure

properties of these constructions and the fact that in Japanese, arguments of the VN which do not require structural Case (PPs, CPs, dative NPs) also undergo this type of movement. As for what restricts this type of movement, I argued that movement, once motivated as just stated, is possible whenever the possessor or argument of the VN occurs at the edge of the nominal domain.

If the relevant movement is not Case-driven, how do possessors and object NPs of VNs then end up with the structural Cases assigned in the TP and vP domain? There is a straightforward way of implementing this in Bošković's (2007b; to appear) system, where movement is driven by the moving element. A moving element in this system undergoes movement, and then works as a probe from its landing site, checking its uninterpretable features. The system also assumes a freezing effect of feature checking, whereby once a moved element undergoes feature checking the moved element is frozen and cannot undergo further movement/feature checking. If there are other features that cannot be checked, the derivation will crash. This then implies that whenever there is feature checking, the moved element has to move to the final landing site and then undergo feature checking for all its features from this position. This system makes an interesting prediction, as noted by Rodríguez-Mondoñedo (2007). Consider (104).

(104)   X   Y   Z
           K   F   u.K
           F   u.F   (Bošković, to appear: (33))

Z in (104) has two uninterpretable features, which need to be checked. The closest checker for F is Y. In the absence of freezing effects, we would expect Y to value the F feature of Z, which in Bošković's moving-element driven system would happen after Z moves to Spec, YP. However, given the freezing effect, probing for F from Spec, YP would freeze Z, leaving its K feature unchecked. In Bošković's (2007b; to appear) system, we would therefore expect

Z to move to Spec, XP, probing for all its features from there. Locality then requires that X rather than Y checks the F feature of Z.[30] Returning to VNPs, if a possessor or an object NP of VNs remains within the Noun Phrase, it will receive genitive Case within the Noun Phrase. However, if it, e.g., undergoes topicalization to Spec, vP or Spec, TP, it will probe for all its features, including Case (and the feature driving topicalization), from these positions. It will then receive the Case from the higher Case-licensor (which is Accusative or Nominative), not genitive. There are, however, several ways to implement Case licensing of the elements in question so I will have to leave the issue in question open here.

4.4 The descriptive V-*de* Construction

In this section I will discuss another complex predicate construction in Chinese, which I will call the descriptive V-*de* construction. An example is given in (105). As illustrated there, the verb in this sentence is followed by the lexical item *de*. There is another adjectival complement following it, describing the state or degree of the action expressed by the verb.[31]

(105) Geruisen zhongguo-zi   xie-de   hen hao.
       Grissom Chinese-character write-DE   very good
       'Grissom writes Chinese characters very well'

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[30] Rodríguez-Mondoñedo (2007) provides evidence for this prediction of the freezing system, where the closest checker (Y) unexpectedly fails to do the job, based on Spanish DOM.

[31] Under the traditional view, this construction is classified as one of the Bu-Yu ('complex predicate') constructions which also takes the form of V-*de* in Chinese. For example, the following two examples are resultative structures. In the first sentence, the predicate modifies *Grissom*. But in the second one, the predicate modifies *Sara*.

(i)   Geruisen xie-de   hen lei.
        Grissom write-DE very tired
        'Grissom got tired from writing' or 'Grissom wrote so much that he got tired.'

(ii)   Geruisen ku-de Sala hen shangxin.
        Grissom cry-DE Sara very sad
   'Grissom cried so much that Sara got sad.'

I will focus on this descriptive V-*de* construction in the following discussion. What I propose here does not apply to other V-*de* constructions automatically. For proposals regarding the resultative structures or other complex predicates, see Chao (1963), Li and Thompson (1981), and Huang (1988) and many others.

I will first argue that the V-*de* construction cannot be treated as an internally headed relative clause (cf. Zhu 1982 and Huang 1988). Then I argue that this construction shares some properties with the light verb construction, which can be subsumed under the idea of internal topicalization.

When 'write' acts as a regular transitive verb, it takes a Theme argument in the postverbal position, as in (106). Following the previous proposal of relativization in Chapter 3 (Section 3.3.5), a relative clause is formed as in (107). The structure is shown in (108).

(106)   Geruisen   xie   zhongguo-zi.
         Grissom   write Chinese-character
         'Grissom writes Chinese characters.'

(107)   [$_{CP}$ Geruisen xie- t_i]-de   zhongguo-zi$_i$.
         Grissom   write   -DE Chinese-character
         'The Chinese characters that Grissom writes'

(108)
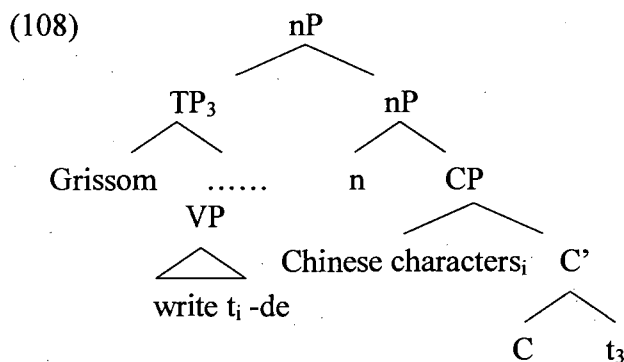
The example in (107) hence is a noun phrase, rather than a whole sentence. As mentioned in Chapter 3, in Chinese, an adjectival phrase can be the main predicate without any appearance of a copula, in contrast to English. This is shown in (109).

(109)   Geruisen hen   shuai.
         Grissom very handsome
         'Grissom is very handsome.'

Hence, in order to form a full sentence again, one may simply add an adjectival predicate to modify the relativized NP, as shown in (110).

(110) Geruisen xie-de zhongguo-zi hen hao.
       Grissom write-DE Chinese-character very good
       'The Chinese characters that Grissom writes are very good.'

Compared to (110), the sentence in question (repeated here as (111)) shows only one

difference: the position of the object. In (110), the object is in a postverbal position. But in

(111), it is in a preverbal position.

(111) Geruisen zhongguo-zi xie-de hen hao.
       Grissom Chinese-character write-DE very good
       'Grissom writes Chinese characters very well'

Because of the similarity between (110) and (111), one may argue that sentence (111) is an

example of an internally headed relative clause, like, e.g. the Ancash Quechua examples

discussed in Cole (1987). However, I argue against this proposal. The major reason for

rejecting an internally headed relative clause structure comes from the different

interpretations of (110) and (111). Compare the paraphrases in (110) vs. (111). In (110), the

adjectival predicate modifies the nominal 'Chinese characters'. In (111), the predicate

modifies the action of writing. This difference is more obvious in the following examples. If

we have two different adjectival predicates, one that can modify horses and the other that can

only modify riding, we predict that this horse modifying adjectival predicate can only appear

in constructions like (110). The prediction is borne out in (112).

(112) a. Geruisen qi-ma.
          Grissom ride-horse
          'Grissom rides.'
       b. Geruisen qi-de ma hen gao-da / ??hen kuai.[32]
          Grissom ride-DE horse very tall-big / very fast
          'The horse that Grissom rides is very tall and big.'

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[32] Although in English it is possible to say 'Grissom's horse is fast' meaning the horse runs fast, this is quite
unnatural in Chinese.
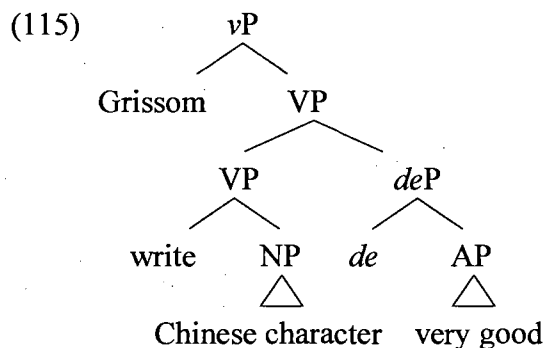   (i)   ??Geruisen de ma hen kuai.
               Grissom DE horse very fast
               'Grissom's horse is fast.'

c. Geruisen ma   qi-de   *hen gao-da / hen kuai.
   Grissom horse ride-DE   very tall-big   very fast
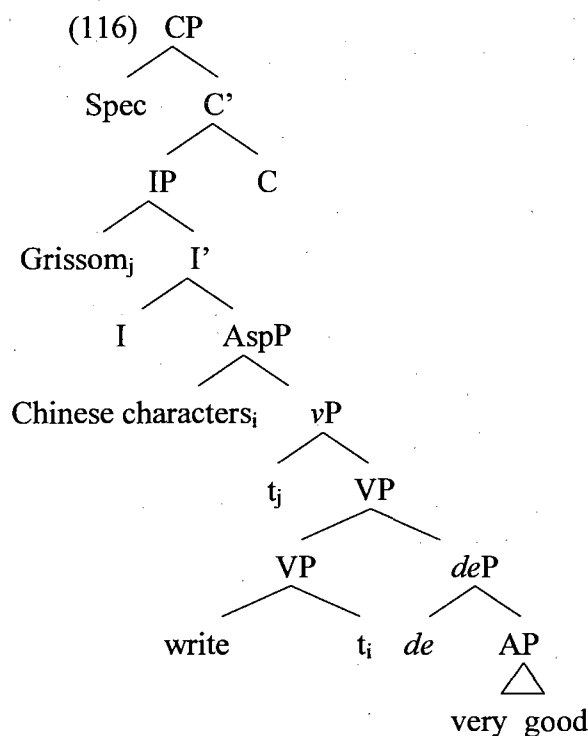   'Grissom rides horse in a very fast way.'

This is different from the examples that Cole (1987) discusses. No matter whether we are dealing with an externally or an internally headed relative clause, their interpretations are the same, as shown below.

(113) Headed Relative Clause   (Ancash Quechua)
       [NP [s nuna ∅ᵢ   ranti-shqa-n]   bestyaᵢ]   alli
            man   buy-PERFECT-3 hrose(NOM) good
       bestya-m   ka-rqo-n
       horse-EVIDENTIAL   be-PAST-3
       'The horse the man bought was a good horse.'

(114) Internally Headed relative Clause   (Ancash Quechua)
       [NP nuna   bestya ranti-shqa-n]   alli
            man   horse buy-PERFECT-3   good
       bestya-m   ka-rqo-n
       horse-EVIDENTIAL   be-PAST-3
       'The horse the man bought was a good horse.'   (Cole 1987: 279)

Thus a different structure should be proposed for the sentence (111). Inspired by Sybesma's (1999) and Cheng's (2007) proposal, I assume that the adjectival predicate is headed by the particle *de*, which projects a DeP. However, departing from Sybesma and Cheng, I assume that the DeP is an adjunct of the main predicate, rather than a complement of it. The subject *Grissom* is the external argument of the main predicate. The structure is shown in (115).

(115)

               *v*P
              /   \
         Grissom   VP
                   / \
                 VP   *de*P
                / \   /   \
            write NP *de* AP
                   △   △
              Chinese character   very good

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Assuming that there is an Adjacency requirement between the main verb and the particle *de* at PF, the object NP then is forced to move.[33] I propose that the object NP moves out to the high internal topic position at the clausal domain. This is illustrated in (116).

(116) CP
- Spec
- C'
  - IP
    - Grissom$_j$
    - I'
      - I
      - AspP
        - Chinese characters$_i$
        - *v*P
          - t$_j$
          - VP
            - VP
              - write
              - t$_i$
            - *de*P
              - *de*
              - AP
                - very good
- C

That the landing site is the high topic position is confirmed by the following examples with negation.

(117) a. Geruisen zhongguo-zi   meiyou xie-de   hen hao.
       Grissom Chinese-character not   write-DE   very good
       'Grissom does not write Chinese characters very well'
    b. * Geruisen meiyou zhongguo-zi   xie-de   hen hao.
       Grissom not   Chinese-character write-DE   very good

Interestingly, the location of the object is reminiscent of what happens in the light verb construction. Like the Theme argument in the light verb construction, the object gets its theta-role from the verb before it moves out of the VP. After the movement out of the VP domain, we then need a position to accommodate the Theme argument, which is forced to

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[33] Note that this does not drive movement. The PF requirement has a filtering effect, so if the movement does not take place in the syntax, where it has independent syntactic motivation, we get a PF violation.

move out of the VP because of the Adjacency requirement between -de and the verb. Since there are other topic/focus positions available, we predict that all the positions available for the Theme argument in the light verb construction should also be available for the object in the descriptive V-de construction. This prediction is borne out as follows. The object can be internally or externally topicalized, as in (118) and (119). Or it can be focalized, as in (120) and (121).[34]

(118) Geruisen zhongguo-zi   xie-de   hen hao.
      Grissom Chinese-character write-DE very fast
      'Grissom writes Chinese characters very well.'
(119) zhongguo-zi,   Geruisen xie-de   hen hao.
      Chinese-character Grissom write-DE very good
(120) Geruisen lian zhongguo-zi   dou xie-de   hen hao.
      Grissom even Chinese-character all write-DE very good
      'Grissom even writes Chinese characters very well.'
(121) Shi zhongguo-zi   Geruisen xie-de   hen hao.
      is   Chinese-character Grissom write-DE very good
      'It is Chinese character that Grissom writes very well.'

Regarding (118), we also predict that the preposed Theme argument can only be a G(eneralized)-Specificity noun. This is shown in (122) and (123) respectively.

(122) Definite NP
      Geruisen zhe-ge zhongguo-zi   xie-de   hen hao.
      Grissom this-CL Chinese-character write-DE very fast
      'Grissom writes this Chinese character very well.'

(123) Decreasing NPs
      *Geruisen wu-ge-yixia-de   zhongguo-zi   xie-de   hen hao.
       Grissom   five-CL-under-DE Chinese-character write-DE very good
      'Geruisen writes less than five Chinese characters very well.'

The following argument gives support for the current movement proposal. Huang (1993) shows that it is possible to front a VP in Chinese, as illustrated here in (124).

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[34] Passivization of the object is not acceptable here because of the adversity requirement of the passive construction itself (cf. Chapter 3). The passive counterpart of (118) is also unacceptable.

  (i)   *Zhongguo-zi   bei Geruisen xie-de   hen hao.
            Chinese-character BEI Grissom write-DE very good
            'Lit: Chinese characters are written very well by Grissom.'

(124) [VP piping ziji$_{i/j}$ -de pengyou], Geruisen$_i$ zhidao Sala$_j$ juedui   bu   hui
       criticize self-DE friend   Grissom   know Sara definitely not will
       'Criticize his$_{i/j}$ own friends, Grissom$_i$ knows that Sara$_j$ definitely will not.'

However, notice that now there is a trace of the Theme argument inside the VP. Thus we predict that if one simply moves the VP to a position higher than the Theme argument, the result should be ungrammatical because of a violation of the Proper Binding Condition. This prediction is borne out in (125).

(125) *[Xie t$_i$ -de hen hao], Sala zhidao Geruisen [NP zhongguo-zi]$_i$ neng
        write-DE very good Sara know Grissom   Chinese-character can
        'Sara knows that Grissom can write Chinese characters very well.'

On the other hand, if the violation of Proper Binding Condition can be saved, the sentence should be grammatical again. This is the exactly the case in (126). The Theme argument is topicalized to a position above the fronted VP. In that position, it binds the trace inside the fronted VP.

(126) ?[NP Zhongguo-zi]$_i$,   [xie t$_i$ -de hen hao],   Sala zhidao Geruisen neng.
        Chinese-character write-DE very good Sara know   Grissom can

4.5 Differential Object Markers

In this section I will discuss various differential object markers (DOM) in Chinese. In the discussion of the descriptive V-*de* construction, I have shown that the Theme argument/object is forced to move to the clausal domain. In addition to the constructions in (118) to (121), there are two more constructions that I would like to discuss here. The first one is the BA construction, as in (127).

(127) Geruisen ba   zhongguo-zi   xie-de   hen hao.
       Grissom BA Chinese-character write-DE very good
       'Grissom writes Chinese characters very well.'

The compatibility between the Theme argument/object and the BA construction is not surprising since the BA NP position is object oriented. And what has been preposed here is exactly an object.

A more interesting variant is the following one. One can also reduplicate the verb and put it right in front of the preposed object, forming something like a VP. The example is shown in (128). Notice that here the reduplicated verb is optional. Since there are two verbs in this construction, this construction is called the verb copying construction.[35]

> (128) Geruisen (**xie**) zhongguo-zi **xie**-de hen hao.
> Grissom write Chinese-character write-DE very good
> 'Grissom writes Chinese characters very well.'

Although the combination *xie zhongguo-zi* ('write Chinese characters') seems to be a verb phrase at first sight, Tsao (1987) convincingly shows that the first verb in (128) is not a real verb. The reduplicated verb itself does not show any verbal properties. For example, it cannot take any aspect markers or form an A-not-A question, contrary to its real verb counterpart.

> (129) a. Geruisen **xie**-le/zhe/guo zhongguo-zi.
> Grissom write-ASP Chinese character
> 'Grissom wrote/is writing Chinese characters.'
> b. Geruisen **xie**-bu-**xie** zhongguo-zi?
> Grissom write-not-write Chinese character
> 'Does Grissom write any Chinese characters?'

> (130) a. *Geruisen **xie**-le/zhe/guo zhongguo-zi **xie**-de hen hao.
> Grissom write-ASP Chinese character write-DE very good
> 'Grissom wrote/is writing Chinese characters very well.'

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[35] Note that the term 'the verb copying construction' also covers some other V-*de* constructions which are not discussed here. A resultative structure is given in (i).
> (i) Geruisen *(xie) zhongguo-zi xie-de hen lei.
> Grissom write Chinese-character write-DE very tired
> 'Grissom got very tired because of the writing of Chinese characters.'

Notice that unlike the descriptive V-*de* construction, the omission of the reduplicated verb results in ungrammaticality here even if the object is not a [+person] nominal.

b. *Geruisen **xie-bu-xie** zhongguo-zi xie-de hen hao?
   Grissom write-not-write Chinese character write-DE very good
   'Does Grissom write any Chinese characters very well?'

The status of the reduplicated verb is controversial in the literature. For example, Hsu (2008b) proposes that constituent [*write Chinese characters*] involves internal VP topicalization/focalization. Tsao (1987) argues for internal NP topicalization, and points out that the first verb is not a verb. But he does not give any further explanation. I would like to propose that the reduplicated verb in (128) is a Differential Object Marker (cf. Chapter 2). Recall that when an internal topic is a [+person] nominal (i.e., a Proper Name or a pronoun), a DOM has to be inserted. Supporting evidence that the reduplicated verb is a DOM comes from the following examples. When the Theme argument/object is a Proper name, the reduplicated verb is obligatory, as shown in (131a) and (131b). Otherwise, other constructions have to be used, like the external topic in (131c) or the BA construction in (131d).

(131) a. *Geruisen Sala da-de hen yong-li.
          Grissom Sara hit-de very with-power
          'Grissom hit Sara with great power.'
      b. Geruisen **da** Sala **da**-de hen yong-li.
          Grissom hit Sara hit-DE very with-power
      c. Sala, Geruisen da-de hen yong-li.
          Sara Grissom hit-DE very with-power
      d. Geruisen ba Sala da-de hen yong-li.
          Grissom BA Sara hit-de very with-power

Further supporting evidence for DOM in the descriptive V-*de* construction comes from ditransitive verbs. In (132), the verb takes two NPs as complements.

(132) Geruisen wen-le [NP Sala] [NP wenti].
      Grissom ask-ASP Sara question
      'Grissom asked Sara some questions.'

It is possible to transform the above sentence into a descriptive V-*de* construction. Both internal NPs can be preposed. Furthermore, a sentential adverb 'apparently' can intervene in between.

(133)　Geruisen wen [NP Sala] (xianran)　[NP wenti]　dou wen-de hen zixi.
　　　　Grissom ask　　Sara　apparently　　question all　ask-DE very carefully
　　　　'Grissom apparently asked Sara some questions in a very careful way.'

The appearance of the sentential adverb indicates that the two NPs do not form a constituent. They are preposed separately. In (133), *Sala* moves into an internal topic position, while *question* moves into a focus position. We then predict that the NPs in the topic position can only be G(eneralized)-Specificity nouns. This prediction is borne out in (134).

(134)　a. Geruisen wen-le　　[NP yige ren]　　[NP wenti]
　　　　　Grissom ask-ASP　　one person　　question
　　　　　'Grissom asked a certain person some questions.'
　　　　b. *Geruisen wen [NP yige ren]　[NP wenti]　　dou
　　　　　Grissom ask　　one person　　question all
　　　　　wen-de hen　zixi.
　　　　　ask-DE very　carefully
　　　　　'Grissom asked one person some questions in a very careful way.'

Furthermore, using the PBC, (133) provides a further argument that the higher V + Object does not form a constituent—if *wen Sala* ('ask Sara') were a VP, it would contain the trace of 'question', and the sentence would incorrectly be predicted to be unacceptable. In accordance with Tsao's previous proposal, this observation provides a further argument against the VP fronting analysis.

Unlike in Spanish where DOM always involves marker *a*, I claim that DOM has various forms in Chinese. In the light verb construction, a preposition-like element *dui* ('to') can be added in front of the Theme argument, as in (135).

(135)　CSI　(dui) [NP zhe-ge anzi]　meiyou jinxing-le　　[NP diaocha].
　　　　CSI　to　　this-CL case　not　　proceed-ASP　　investigation
　　　　'CSI did not make an investigation of this case.'

As discussed in Chapter 2, I consider the preposition-like element to be a differential object marker. Notice that in the examples that we have discussed so far, the Theme arguments are all [-person] nominals. Hence a DOM is optional for the cases so far. On the other hand, if the Theme argument is a [+person] nominal, we predict that the preposition-like element is obligatory. This prediction is borne out in (136).

> (136) CSI   *(dui) Geruisen meiyou jinxing   diaocha.
>   CSI   to   Grissom   not   proceed   investigation
>   'CSI did not make an investigation of Grissom.'

Hence the preposition-like element *dui* ('to') can be viewed as DOM, too. Hence in Chinese, we have two different types of DOMs. This is summarized in (137). [36]

> (137) Differential Object Markers in Chinese
>   a. Geruisen *(dui) Sala jinxing-le   diaocha
>   Grissom   to   Sara proceed-ASP investigation
>   'Grissom made an investigation of Sara.'
>   b. Geruisen *(zhui) Sala zhui-de   hen xingku.
>   Grissom   pursue Sala pursue-DE very hard
>   'Grissom pursues Sara in a very hard way.'

There are some interesting commonalities between these DOMs. First, though *dui* looks like a preposition and may be used as a preposition in other contexts, it in fact can be shown that it is derived from a verb. [37] For example, its verbal counterpart can be found in the ancient Chinese texts, given in (138).

> (138) Liang shan   xiang   **dui**, wang zhi ruo que
>   two   mountain each-other face   look it   like palace
>   'These two mountains face each other. If you look at them, they look like a palace.'
>
>   (Shiji, Zou Benji, 108-90 B.C.)

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[36] Yang and van Bergen (2007) propose that *ba* in the BA construction is also a DOM. If they are right, there are then three different DOMs in Chinese.

[37] The same in fact holds for BA (see Sun 1996), which may be relevant given footnote 36. BA also imposes semantic restrictions, like the *dui* DOM (see the discussion below).

The *dui* DOM in fact imposes some semantic restrictions on the preposed object and the verb following them, which can be considered to be the residues of its verbal property. It is not the case that for the same structure one can use *dui* (or BA, see footnote 36) freely. The usage of this DOM has to match the meaning of the preposed object and the verb. Under this view, perhaps the reduplicated DOM has more freedom because it copies the original verb. If the preposed object is compatible with the original verb, it of course will be compatible with the reduplicated one.

Second, both DOMs mark the high internal topic position. As we have seen in Chapter 2, there are two internal topic positions. From the light verb construction and the descriptive V-*de* construction, we know that *dui* and the reduplicated verb mark the higher internal topic. It is then not surprising that they are both subject to the DOM [+person] requirement.

4.6 Conclusions

In this chapter, I have discussed two complex predicate constructions which have presented a number of puzzles in the study of Chinese syntax: the light verb construction and the descriptive V-*de* construction. I have proposed that they share a number of properties which can be explained by the same mechanism: internal topicalization.

For the light verb construction, I have shown that the so called light verb in fact behaves like a regular verb. The only special property of the light verb is that it can take a nominalized VP as its complement. If arguments of the VNP move out of the nominal domain, then we get what is traditionally called a light verb construction. If they stay inside the VNP, we get a 'heavy' verb construction. I have also applied this analysis to Japanese

light verb constructions. Since the nominal structures differ in Chinese and Japanese, it is not surprising that we find some differences between these two languages in the light verb construction.

The descriptive V-*de* construction provides another argument for the existence of the high internal topic position. I have also discussed one of its variants: the verb copying construction. I have shown that the first occurrence of verb + object is not a VP, but an NP plus a differential object marker. At the end of this chapter, I have also addressed the existence of differential object markers in Chinese, arguing that they are related to internal topicalization and that they come in at least two different forms in Chinese.

Chapter 5 Closing Remarks

5.1. TP-internal movement in Chinese

In Chapters 2 to 4, I have discussed several constructions involving TP-internal movement in Chinese, and I have argued that they are all related to topicalization. These constructions are repeated below.

(1) Object Preposing
    a. Geruisen kan-wan-le   [$_{NP}$ zheben shu].
       Grissom read-finish-ASP   this-CL book
       'Grissom finished reading this book.'
    b. Geruisen [$_{NP}$ zheben shu]$_i$ kan-wan-le   t$_i$.
       Grissom   this-CL book read-finish-ASP

(2) Possessor Raising
    a. Geruisen da-shang-le [$_{NP}$ Sala-de shou].
       Grissom hit-hurt-ASP   Sara-DE hand
       'Grissom hurt Sara's hand.'
    b. Geruisen ba [$_{NP}$ Sala]$_i$ da-shang-le [$_{NP}$ t$_i$ shou].
       Grissom BA   Sara hit-hurt-ASP   hand

(3) Light Verb Construction
    a. Geruisen jinxing-le   [$_{NP}$ zhege anzi-de diaocha].
       Grissom proceed-ASP   this-CL case-DE   investigation
       'Grissom made an investigation of this case.'
    b. Geruisen [$_{NP}$ zhege anzi]$_i$ jinxing-le   [$_{NP}$ t$_i$ diaocha].
       Grissom   this-CL case proceed-ASP   investigation

(4) Descriptive V-*de* Construction
    a. Geruisen hen zixi-de   diaocha-le   [$_{NP}$ zhge   anzi].
       Grissom very carefully-DE investigate-ASP   this-CL case
       'Grissom investigated this case in a very carefully way.'
    b. Geruisen [$_{NP}$ zhege anzi] diaocha-de   hen zixi.
       Grissom   this-CL case investigate-DE very carefully.

I have argued that all the (b) sentences above involve movement of an NP from a postverbal position to a preverbal position between the subject and the verb. In Chapter 2, I have shown that when a bare nominal moves to a TP-internal position, it is interpreted as a topic. Most

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importantly, the bare nominal differs crucially from an internal *even* focus, but patterns with external topics in several respects. Since nominals that move to the TP-domain are interpreted as topics in Chinese, I have proposed that the phenomenon underlying all these constructions is internal topicalization. However, although they are both topics, internal topics and external topics have at least three differences. First, multiple topics are allowed TP-externally but not TP-internally Second, while external topics allow any syntactic category, internal topics can only be NPs. Last, an [+person] NP cannot be an internal topic unless it is accompanied by a differential object marker. But there is no such a restriction for external topics. I have proposed that the asymmetries between internal topics and external topics can be explained under the current proposal: while the external topic is located in the Spec of a TopicP, the internal topic is located in the Spec of an independently available functional projection.

The assumption of internal topicalization allows us to not only provide a unified account of these seemingly unrelated constructions, but also to approach the question of how the apparent 'optional' movement operations in (1) to (4) can be motivated. Comparing the (a) sentences to the (b) sentences, it can be observed that the NPs can either stay in their postverbal positions or move to the TP-domain. I have argued that this 'optional' movement can only be indirectly related to case. This can be most clearly seen in the Japanese light verb construction, where categories other than NPs undergo this type of movement. I have argued that the apparent optionality of this movement follows from the effects of topicalization. As is well known, topicalization typically involves a difference in interpretation, or more accurately, a difference in the information structure properties of a sentence. Sun and Givón (1985) and Liu (2007), for instance, conclude, based on corpus studies, that an SOV order is

a marked, specialized, contrastive/emphatic discourse device when compared to the SVO order. In other words, the SOV order is information structure sensitive, exactly as expected if that order involves a process of topicalization. From this point of view, the movements in (1) to (4) are then in fact not optional since the different word orders in the (a) vs. (b) examples lead to different interpretations.

5.2. TP-internal movement cross-linguistically

If what I have concluded based on Chinese is correct, namely that TP-internal movement is information structure sensitive, we would except to find a similar effect in constructions involving movement to the TP-domain in other languages. In addition to internal topicalization in Chinese, I have also discussed similar constructions in other languages, specifically, Object Shift in Icelandic, Possessor Raising in Korean, and Light Verb Constructions in Japanese. Although there are important differences between these constructions and languages and different names have been given to the movements involved, these constructions nevertheless share one property: they all involve apparent optional movement from a postverbal position to some preverbal (TP-internal) position, as in Chinese.

(5) Object Shift in Icelandic
    a. Af hverju las$_v$ Pétur aldrei [$_{VP}$ t$_v$ pessa bók]?
       why   read Peter never   this book
       'Why did Peter never read this book?'
    b. Af hverju las$_v$ Pétur pessa bók$_i$ aldrei [$_{VP}$ t$_v$ t$_i$]?
       why   read Peter this book never   (Vikner 2006: (4))

(6) Possessor Raising in Korean
    a. John-i   [$_{NP}$ Mary-uy   phal]-ul   ttayressta
        -Nom   -Gen arm-Acc   hit
       'John hit Mary on the arm.'

b. John-i   Mary-lul$_i$ [$_{NP}$ t$_i$ phal]-ul   ttayryessta.
     -Nom Mary-Acc   arm-Acc hit
   'John hit Mary on the arm.'   (Yoon 1990: 502, (1))

(7) Light Verb Construction in Japanese
   a. Tony-wa   [$_{VNP}$ [ookami-ga kuru-to]-no   HOOKOKU]-o   shita
       -TOP   wolf-Nom come-Comp-Gen report-ACC   did
     'Tony reported that the wolf was coming.'
   b. Tony-wa   [ookami-ga kuru-to]$_k$ [$_{VNP}$ t$_k$ HOOKOKU]-o   shita
       -TOP   wolf-Nom come-Comp   report-ACC   did

As we have discussed above, in Chinese, movement to TP-internal position is in fact not optional since it involves topicalization and affects the information structure properties of a sentence. Hence the same reasoning may be applied to these languages as well. That is, let us hypothesize that in general, when an NP moves to a position in the TP-domain, movement results in different interpretations which can be characterized as focalization or topicalization. This hypothesis receives immediate support from previous works on Object Shift and possessor raising. As pointed out in Chapter 2, several authors have argued that Object Shift in Icelandic involves a topic interpretation (cf. Bobaljik 1995 and Diesing 1996, among others). Furthermore, possessor raising in Korean has also been proposed to be related to information structure properties such as topic and focus (cf. J-Y Yoon 1989, Chuang 1997, Schütze 2001, Vermeulen 2005). As for the light verb construction in (7), I have assumed that movement from the nominal domain to the clausal domain involves scrambling. Though long distance scrambling (A'-scrambling) in (8) has been argued to exhibit LF reconstruction effects (cf. Saito 1989), short VP-scrambling in (9), where the landing site is lower than the subject, has been argued to be A-movement which does not show reconstruction effects for binding (cf. Mahajan 1990, Tada 1990 and Saito 2003).

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(8) Nani-o$_1$ John-ga   [Mary-ga t$_1$ katta   ka] sitteiru.
    what-Acc John-Nom Mary-NoM   bought Q knows
    'John knows what Mary bought.'

(Bošković and Takahashi 1998: 353, (6))

(9) *Hanako-ga   otagai-o$_i$ (kinoo)   karera-ni t$_i$ syookaisita
         -Nom each other-Acc yesterday they-to   introduced
    'Hanako introduced them to each other yesterday.'

(Saito 2006: (13b))

Because of example such as (9), Saito (2003) suggests that short VP-scrambling should be analyzed exactly like NP-movement. Hence, though this 'VP-internal scrambling' bears a name related to 'scrambling', it in fact behaves just like regular NP-movement and does not show the vacuous movement property which singles out the typical A'-scrambling operation. If this is the case, it is then not so implausible if we try to compare TP-internal scrambling to other movements to TP-internal positions. Furthermore, although it is not straightforward that A-scrambling in Japanese can be motivated by information structure directly, there are recent proposals trying to explore possible connections between these two. For example, based on experimental results, Ferreira and Yoshita (2003) have shown that in a response to a statement-question sequence, the production of Japanese A-scrambled and canonical word orders for IO and DO is sensitive to given versus new information. In Korean, another scrambling language, there are also various proposals arguing that scrambling (in general) tends to be licensed by information structure properties such as contrastive focus as well as by topic-hood (prominent given information) (cf. Choi 1997, Hwang, Schafer, and O'Grady 2007, and Park 2007). Lastly, Wurmbrand (2008) and Bobaljik and Wurmbrand (2008) also argue that a major factor regulating reconstruction and quantifier scope in scrambling contexts in German is information structure. In sum, although it is not obvious that movement in (7b) is topic movement, the studies mentioned above point to a connection

between scrambling and information structure, which is exactly what we would expect under the current proposal. Assuming that the connection between scrambling and information structure can be maintained and elaborated, we can conclude that at least the TP-internal movement operations that I have examined in this dissertation are all in one way or another information structure related. This TP-internal movement in different languages may have different names, and involve diverse and complex structures, but at the core, there is one property—movement that feeds information structure. This is a welcome conclusion since the discussion here may provide a possible answer to why these apparent optional movement operations exist cross-linguistically.

5.3. Some Open Issues

In Chapter 1, I briefly compared two approaches to the syntax of Topic/Focus—the cartographic approach and the mapping approach. In this final section, I will discuss how the findings in this dissertation have contributed to this debate.

In Chapter 2, I argued against an independent topic projection for the TP-internal topic. However, this does not necessarily argue against a cartographic approach. For example, one may propose that the topic interpretation on an NP still relies on feature-checking—an optional topic feature—and that topic movement is triggered by the need to check the feature. Since there is no topic projection, each TP-internal head (Mod or Asp) has to be equipped to check the [+topic] feature (somewhat similar to the claim in certain theories that agreement features on NPs can be checked by T/v heads but not AGR heads). The advantage of a feature-driven account for topic movement is that it allows us to pursue an account of differential object marking along the lines of Rodríguez-Mondoñedo (2007),

which crucially relies on feature checking. A disadvantage of a feature-driven account, however, is the optional assignment of topic features to non-topic heads.

On the other hand, if we pursue the mapping approach, the most natural assumption is that movement is essentially free. The output of the syntax will be mapped into information structure, hence it is the information structure (rather than a topic feature) that takes care of the topic/focus interpretation. No stipulation regarding topic features on the moved NP itself or the head in the TP domain is required. However, a drawback of this approach is that it is incompatible with theories that do not allow free (i.e., untriggered) syntactic movement. Furthermore, the DOM account that I have adopted can not be accommodated under this approach and a different analysis of DOM is necessary.

Hence, it seems that the current proposal that there is no internal topic projection does not allow us to make a conclusive argument in favor or against either of the two approaches, and further investigation of the pros and cons of both approaches is necessary.

Lastly, there is also the issue of mapping versus cartography approaches for focus and external topics. A question I raised at the end of Chapter 2 is whether it is also possible to eliminate independent topic projections for external topics and focus. For the internal focus, at least 'some' cartography is needed since the head of the *lian...dou* even focus is always present. But also notice there is no need to posit an external focus projection since we only move the *lian* NP part to a TP-adjoined position. Shyu (1995), who proposes and argues for the existence of an internal focus projection, also considers this movement as some kind of topicalization. As for the external topic, if there are no external topic projections (pursuing a mapping approach), external topics would have to go to Spec, CP rather than an external TopP. Recall that the argument against an internal TopP from Chapter 2 relied crucially on

differences between internal and external topics, which are attributed to properties of (split) TP projections versus TopPs. That is, TopP is recursive (hence multiple external topics are possible), but AspP/ModP are not. TopP can host any category, but AspP/ModP can only host NPs, and Top is not deficient (can host [+person] topics), but Asp/Mod are (if these differences are not attributed to TopP, the argument against an internal TopP seems to be weakened). However, I also discussed the possibility that CP can do the job of an external topic equally well. First, CP is different from TP-projections in many respects—the former is an A'-head, whereas the latter are A-heads. Moreover, there are also other languages showing similar properties to those observed for Chinese internal and external topics, and for which the crucial distinction has been a categorial distinction between CP and TP. Take Icelandic for example. Icelandic has both verb second (which targets Spec,CP) and Object Shift (which targets a specifier in the TP-domain). Verb Second can affect any category, but Object Shift can only apply to NPs. In this respect, the category difference is well-established for TP versus CP specifiers. Second, Icelandic has recursive CPs (i.e. Verb Second under a complementizer), therefore recursive CPs are attested as well. Lastly, the assumption that Asp/Mod is deficient, but Top is not, is a mere stipulation, that can easily be made for the C head as well. At any rate, if we consider all these possibilities, then it is not so implausible that we can have an external topic without positing a topic projection.

In sum, the findings in this dissertation are compatible with both a mapping and a cartography approach. Further investigation of, for instance, the nature of different clausal projections or the ordering of different types of topics across the different topics domains is necessary to be able to construct conclusive arguments in favor of one approach over the other.

Appendix I
The BA Construction with G(eneralized)-specificity nouns

Liu (1997) shows most G(eneralized)-specificity nouns (including definite NPs, universally quantified NPs and *most* or *some* NPs, NPs with bare numeral determiners) can occur in the BA construction. Other NPs, like decreasing NPs and NPs with modified numeral determiners, cannot.

(1) Definite NP
    Geruisen ba naben   shu   kan-wan-le   diyi hui.
    Grissom BA that-CL book read-finish-ASP   first chapter
    'Grissom finished reading the first chapter for that book.'

(2) Universally Quantified NP
    Geruisen ba   suoyou de   shu   dou kan-wan-le   diyi hui.
    Grissom BA all   DE book   all read-finish-ASP first chapter
    'Grissom finished reading the first chapters for all the books.'

(3) Most N
    Geruisen ba   daduoshu de   shu   dou kan-wan-le   diyi hui.
    Grissom BA most   DE book all read-finish-ASP   first chapter
    'Grissom finished reading the first chapter for most of the books.'

(4) Some N
    Geruisen ba   mouxie shu   kan-wan-le   diyi hui.
    Grissom BA certain book read-finish-ASP first chapter
    'Grissom finished reading the first chapter for certain books.'

(5) Bare numeral determiners
    Geruisen ba   san   ben shu   song gei Sala.
    Grissom BA three CL   book give to   Sara
    'Grissom gave three books to Sara.'

(6) Modified numeral determiners
    *Geruisen ba   shilai   ben shu   song gei Sala
      Grissom BA ten-about CL   book give to   Sara
    'Grissom gave around ten books to Sara.'

(7) Decreasing NPs
    *Geruisen ba   wu   ben yixia   de shu   song gei Sala
      Grissom BA five CL   less.than DE book give to Sara
    'Grissom gave less than five books to Sara.'

As noted by Bender (2000), the above generalization applies almost equally to external topics, expect for the bare numeral determiner NPs (i.e. bare numeral determiner NPs cannot be external topics). She then concludes: "It may be that something about *ba* allows it to

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license a specific reading when its object is indefinite. Thus we can preserve the generalization that the underlying semantic/pragmatic restriction on matrix topics and *ba*-NPs is the same; the syntactic distribution is somewhat different because *ba* can license some interpretations for some forms which the matrix topic position cannot" (Bender 2000: 124).

Appendix II
Comparisons between Object Shift, BA NP and Preposed Object

Table 2.3 Comparisons between Object Shift, BA NP and Preposed Object

	Object Shift	BA NP	Preposed Object
(a) Landing site	AgroP/TP	Recursive *v*P	TP domain
(b) Dependent on Verb movement	yes	no	no
(c) May cross a indirect object	no	yes	yes
(d) A-movement	yes	yes	(no)
(e) Move pronominal NPs	yes	yes	yes (with a preposition-like element)
(f) Move PPs	no	no	no
(g) May cross a clause boundary	no	no	no (unless it's a non-finite clause)
(h) Ordering w.r.t. adverbials	preceding all (medial) sentential adverbs and negation)	following all (medial) sentential adverbs and negation)	following all (medial) sentential adverbs but precede negation)

Examples:

(a) Landing Site

(1) Object Shift
Af hverju las$_v$ Pétur pessa bók$_i$ aldrei [$_{VP}$ t$_v$ t$_i$]?
why read Peter this book never
'Why did Peter never read book?' (Vikner 2006: (4))

(2) BA NP
Geruisen {meiyou} [$_{vP}$ ba Sala {*meiyou} da yi-duan]
Grissom not BA Sara not hit once
'Grissom did not hit Sara once.'

(3) Preposed Object
   Geruiern zhege   zuoye   meiyou [vP zou-wan].
   Grissmo this-CL homework not   do-finish
   'Grissom did not finish doing this homework.'

(b) Dependent on Verb movement

(4) Object Shift
   a. Af hverju las_v Pétur aldrei [VP t_v pessa bók]?
      why   read Peter never   this book
      'Why did Peter never read this book?'
   b. Af hverju las_v Pétur pessa bók_i   aldrei [VP t_v t_i]?
      why   read Peter this   book never
   c. Af hverju hefur_v Pétur aldrei t_v [VP lesið pessa bók]?
      why   has   Peter never   read this book
      'Why has Peter never read this book?'
   d. *Af hverju hefurv Pétur pessa bók_i aldrei t_v [VP lesið t_i]?
      why   has   Peter this   book never   read

(Vikner 2006: (4) and (8))

(5) BA NP
   Geruisen meiyou [vP ba Sala   [VP da yi-duan]]
   Grissom not   BA Sara   hit once
   'Grissom did not hit Sara once.'

(6) Preposed Object
   Geruiern zhege   zuoye   meiyou [vP [VP zou-wan]].
   Grissmo this-CL homework not   do-finish
   'Grissom did not finish doing this homework.'

(c) DO movement across an indirect object (IO)

(7) Object Shift
   a. Ég lána_v ekki t_v Maríu   bækurnar.
      I lend not   Maria.DAT books-the.ACC
      'I did not lend Maria the book.'
   b. *Ég lána_v bækurnar_i   ekki t_v Maríu   t_i.
      I lend books-the.ACC not   Maria.DAT
   c. Ég lána_v Maríu_j   bækurnar_i   ekki t_v t_j t_i.
      I lend Maria.DAT books-the.ACC not
   d. Ég lána_v Maríu_j ekki t_v t_j bækurnar.
      I lend Maria.DAT not books-the.ACC

(Collins and Thráinsson 1993: (149), (154), (143), (154))

(8) BA NP
  a. Geruisen gei-le   Sala zheben shu.
     Grissom give-ASP   Sara this-CL book
     'Grissom gave this book to Sara.'
  b. Geruisen ba zheben shu gei-le   Sala.[1]
     Grissom BA this-CL book give-ASP Sara

(9) Preposed Object
  a. Geruisen wei-le   Sala zhege   wenti.
     Grissom ask-ASP Sara this-CL question
     'Grisosm asked Sara this question.'
  b. Geruisen zhege wenti   meiyou/yinggai yao wen Sala.
     Grissom this-CL question not/should   ask   Sara
     'Grissom didn't/should ask Sara this question.'
  b. Geruisen dui Sala meiyou/yinggai yao wen zhege   wenti.
     Grissom to Sara not/should   ask this-CL question

(d) A-movement
See property (g).

(e) Moves pronominal NPs

(10)   Object Shift
        a. *Af   hverju las$_v$ Pétur aldrei [$_{VP}$ t$_v$ hana]?
           why   read   Peter never   it
           'Why did Peter never read it?'
        b. Af hverju las$_v$ Pétur hana$_i$ aldrei [$_{VP}$ t$_v$ t$_i$]?
           why   read Peter it   never   (Vikner 2006: (5))

(11)   BA NP
        a. Geruisen da-le   ta   yi-duan.
           Grissom hit-ASP he   once
           'Grissom hit him once.'
        b. Geruisen ba ta   da-le   yi-duan.
           Grissom BA he   hit-ASP he   once

(12)   Preposed Object
        a. Gerusien meiyou hen guanxin ta.
           Grissom not   very care   she
           'Grissom did not care about her very much.'

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[1] For (8a), the preposing of the direct object as a BA NP is not acceptable.
  (i)   *Geruisen ba Sala gei-le   zheben shu.
           Grissom BA Sala give-ASP this-Cl book
The ungrammaticality here is due to the disposal meaning imposed by the BA construction itself. A BA NP has to be directly affected by the action denoted by the verb. Hence with a double object construction, only the direct object can become a BA NP.

b. Geruisen *(dui) ta   meiyou hen guanxin.
   Grissom   to him not   very care

(f) Moves PPs

(13)   Object Shift
        a. Ég borgaðiᵥ ekki tᵥ fyrir bókina.
           I paid   not   for book-the
           'I did not pay for the book.'
        b. *Ég borgaðiᵥ fyrir bókinaᵢ   ekki tᵥ tᵢ.
           I paid   for   book-the not   (Vikner 2006: (41))

(14)   BA NP
        a. Greuisen song-le   zheben shu [PP gei Sala].
           Grissom give-ASP this-CL book   to Sara
           'Grissom gave this book to Sara.'
        b. *Geruisen ba [PP gei Sala] song-le   zheben shu.
           Grissom BA   to Sara give-ASP this-CL book

(15)   Preposed Object
        *Gerusien [PP gei Sala] meiyou song-le   zheben shu.
         Grissom   to Sara not   give-ASP this-CL book
        'Grissom did not give Sara this book.'

(g) May move across a clause boundary

(16)   Object Shift
        a. *Ég veit bókinaᵢ [af hverju ðau selduekki tᵢ] .
            I know book-the why   they sold not
        b. Ég veit [af hverju ðau seldu bókinaᵢ ekki tᵢ] .
           I know why   they sold book-the not
        c. Ég veit [af hverju ðau seldu ekki bókina] .
           I know why   they sold not book-the
           'I know why they did not sell the book.'   (Vikner 2006: (49))

(17)   BA NP
        Finite Clause
        a. Geruisen zhidao [CP Sala diaocha   le   najian anzi.]
           Grissom know   Sara investigate ASP that case
           'Grissom knew that Sara investigated that case.'
        b. Geruisen zhidao [CP Sala ba   najian anzi diaocha   le.]
           Grissom know   Sara BA   that case investigate ASP
        c. *Geruisen ba najian anzi zhidao [CP Sala diaocha   le]
            Grissom BA that case know   Sara investigate ASP

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Non-Finite Clause
a. Geruisen bi   Sala [TP PRO diaocha   [NP najian anzi]]
   Grissom force Sara   investigate   that   case
   'Grissom forced Sara to investigate that case.'
b. *Geruisen ba [NP najian anzi]i bi   Sala [TP PRO diaocha   ti   ]
   Grissom BA   that case force Sara   investigate
c. Geruisen bi   Sala [TP PRO · ba [NP najian anzi]i diaocha   ti   ]
   Grissom force Sara   BA   that   case investigate

(18)   Preposed Object
        Finite Clause
a. Geruisen zhidao [CP Sala diaocha   le   najian anzi.]
   Grissom know   Sara investigate ASP that   case
   'Grissom knew that Sara investigated that case.'
b. Geruisen zhidao [CP Sala najian anzi diaocha   le.]
   Grissom think   Sara that   case investigate   ASP
c. ?*Geruisen najian anzi zhidao [CP Sala   diaocha   le.]
     Grissom that   case think   Sara investigate ASP

        Non-Finite Clause
a. Geruisen bi   Sala [TP PRO diaocha   [NP najian anzi]]
   Grissom force Sara   investigate   that   case
   'Grissom forced Sara to investigate that case.'
b. Geruisen [NP najian anzi]i bi   Sala [TP PRO diaocha   ti   ]
   Grissom   that   case force Sara   investigate
c. *Geruisen bi   Sala [TP PRO [NP najian anzi]i diaocha   ti   ]
   Grissom force Sara   that   case investigate

(h) Ordering w.r.t. adverbials

(19)   Object Shift
a. Í gær   lasv Pétur eflaust   ekki tv bókina.
   yesterday read Peter doubtlessly not   book-the
b. *Í gær   lasv Pétur eflaust   bókinai ekki tv ti.
   yesterday read Peter doubtlessly book-the not
c. Í gær   lasv Pétur bókinai eflaust   ekki tv ti.
   yesterday read Peter book-the doubtlessly not
   'Yesterday Peter undoubtedly did not read this book'
                              (Vikner 1994: 493–494, example (16))

(20)   BA NP
        Gerusien (xianran) (meiyou) ba Sala da-le   yi-duan.
        Grissom apparently not   BA Sara hit-ASP once
        'Grissom apparently did not hit Sara.'

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(21)   Preposed Object
Geruisen (xianran)   zhege   zuoye   (meiyou) zuo-wan.
Grissom apparently this-CL homework not   do-finish
'Grissom apparently did not finish doing this homework.'

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