

CHAPTER 4

UNSELECTIVENESS OF OBJECT IN MANDARIN CHINESE

1. Introduction

In Chapter 3 we argued that the subject argument in a Mandarin Chinese sentence is not selected by the main verb, but by a higher light verb. In this chapter, we will see that the same conclusion obtains for the object argument. That is, the object in a Mandarin Chinese sentence can be selected by a light verb too, an effect that we call the *unselectiveness of object in Mandarin Chinese* (cf. section 5.2 of Chapter 2 and section 1.1 of Chapter 3). The phenomenon that we focus on is the adverbial object construction. In Mandarin Chinese, surface objects of sentences can be adverbial expressions that do not fall into the selection domain of the main verb. For this phenomenon, we propose a light verb analysis, on a par with the unselectiveness of subject. A light verb takes an adverbial expression as specifier and a VP as complement. The main verb incorporates to the light verb, and further to the subject-selecting light verb, leaving the adverbial expression in post-verbal position, as if it were an object of the verb.

2. Adverbial objects

Mandarin Chinese is a configurational language with explicit constraints on the word order (see, among others, Huang 1982, Li 1985, Tang 1990). Generally, Mandarin Chinese has the sentential structure SVO, with the "logical" object in post-verbal position.¹ There is,

¹ In some cases, however, the post-verbal object can be shifted to pre-verbal position, by the aid of the disposal marker *ba*. The following examples illustrate this point:

- (i) a. Laowang chi-le san-zhi ji.
 p.n. eat-Perf three-Cl chicken
 'Laowang ate three chickens.'

however, a set of sentences in Mandarin Chinese that is at odds with this generalization, where the post-verbal expression is not the "logical object" of a transitive verb, but an adverbial that modifies the eventuality. There are four major types of adverbials that occur in this construction: instrument, location, time, and reason. We will look at these adverbial objects respectively.

2.1 Instrument

Firstly, the adverbial object can be an instrument. Look at the following examples:²

- (1) a. yong bi xie xin
 use pen write letter
 'use a pen to write a letter' **or**
 'write a letter with a pen'

-
- b. Laowang **ba** san-zhi ji chi le.
 p.n. Disp three-Cl chicken eat Prt
 'Laowang ate [those] three chickens.'

There are, of course, semantic differences between (ia) and (ib). In (ia), the post-verbal object *san-zhi ji* 'three chickens' is indefinite, but in (ib), the same expression *san-zhi ji* 'three chickens' must be interpreted as a definite expression, denoting a particular set of three chickens. Besides, It has been observed that the *ba* construction of (ib) type has a semantic entailment that the pre-verbal object is completely affected, which a sentence with post-verbal object does not have. See the following examples:

- (ii) a. Laowangt he-le tang, keshi mei he-wan.
 p.n. drink-Perf soup but haaven't drink-exhaust
 'Laowang drank the soup, but didn't exhaust it.'
 b. #Laowang **ba** tang he-le, keshi mei he-wan.
 p.n. Disp soup drink-Perf but haven't drink-exhaust
 'Laowang drank the soup, but didn't exhaust it.'

In (iia), the case of post-verbal object, the assertion on soup-drinking can be followed by another assertion that the drinking action doesn't exhaust all the amount of the soup. However, in (iib), the case of pre-verbal object, the same follow-up negation results in odd semantics. Comparing (iia) and (iib), it is clear that the shift of the post-verbal object to pre-verbal position is not positional only; additional mechanism is involved for the change in semantic entailment. In Chapter 5 we propose that the disposal marker *ba* actually is a light verb too, and it attributes the semantics of complete affectedness to the predicate. For general discussion on the disposal marker *ba*, see F. Liu (1997) and references cited there.

² Some Mandarin Chinese speakers don't accept the instrument object in the (b) expressions in (1-5), in particular those who speak Chinese Mandarin. As we will show in Chapter 5, the acceptability of the instrument object has to do with dialectal variations. The instrument object seems to be widely accepted in the southern Min dialects, but not in other Chinese dialects. However, in Taiwanese Mandarin, probably due to the strong influence from Taiwanese, which is also an southern Min dialect, the kind of instrument objects in the (b) expressions in (1-5) are largely acceptable to most speakers.

- b. xie zhe-zhi bi
write this-Cl pen
'use this pen to write' **or**
'write with this pen'
- (2) a. yong wangüan-jing kan dongxi
use telescope watch thing
'use a telescope to watch things' **or**
'watch things with a telescope'
- b. kan zhe-jia wangüan-jing
watch this-Cl telescope
'use this telescope to watch' **or**
'watch with this telescope'
- (3) a. yong dao qie rou
use knife cut meat
'use a knife to cut meat' **or**
'cut meat with a knife '
- b. qie na-ba dao
cut that-Cl knife
'use that knife to cut' **or**
'cut with that knife '
- (4) a. yong shu dian pao-mian
use book mat-to-lift soak-noodle
'use a book to mat-to-lift [a bowl of] instant noodle **or**
'mat-to-lift [a bowl of] instance noodle with a book'

- b. dian zhe-ben shu
 mat-to-lift this-CI book
 'use this book to mat-to-lift' **or**
 'mat-to-lift with this book'
- (5) a. yong beizi he shui
 use cup drink water
 'use a cup to drink water' **or**
 'drink water with a cup'
- b. he na-ge beizi
 drink that-CI cup
 'use that cup to drink' **or**
 'drink with that cup'

In the (a) expressions, we have a serial verb construction, the first verb being *yong* 'use' introducing an instrument NP, and the second, a transitive verb with a theme/patient object.³ In the (b) expressions, the verb *yong* 'use' disappears, but the instrument NP still remains. However, it occurs in post-verbal position, which supposedly should be occupied by the "logical" object of the transitive verb. The meanings of the (b) expressions somehow remain the same as the (a) expressions -- for example, (1b) and (2b) don't mean "to write pen" (which is nonsensical at all) and "to watch a telescope;" instead, the meanings of (1b) and (2b) are roughly the same as (1a) and (2a), "to write something with a pen" and "to watch something with a telescope." The cases of (3-5) are the same. Thus, it's really puzzling how an instrument NP can occur post-verbally as though it were the object of the verb. It is clear that the instrument NP cannot be an internal argument of the transitive verb.

³ A caution: this statement actually is not completely accurate. As the glosses in the (a) sentences in (1-5) show, the (a) sentences in (1-5) in fact are subject to more than one possible analysis -- the element *yong* 'use' can be understood as either a verb in a serial verb construction, as we state in the text, or a preposition heading a prepositional phrase. In other words, the (a) sentences in (1-5) are structurally ambiguous. We will come back to this point in later discussion.

For one thing, all the instrument NPs in the (a) expressions in (1-5) are introduced independently by the verb *yong* 'use'. Hence the transitive verbs in (1-5) don't have to take the instrument NP as an argument. Furthermore, it makes little sense to say that the instrument NPs in (1-5) are "optional arguments." As illustrated by the verbs in (1-5) -- *xie* 'write', *kan* 'watch', *qie* 'cut', *dian* 'mat-to-lift', and *he* 'drink' -- the instrument objects are extremely productive in Mandarin Chinese. Basically, all transitive verbs can take an instrument NP as surface object.⁴ As a consequence, if we claim that the instrument NP in the (b) expressions in (1-5) is an optional argument, we have to claim that all transitive verbs in Mandarin Chinese have an optional instrument argument, a claim neither self-evident nor empirically justified.⁵

⁴ A radical case is given here. Suppose we have (ia), a sentence with the verb *yong* 'use' introducing the instrument *shui* 'water' and the main verb *xi* 'wash', which has an independent theme/patient object *shou* 'hand'. To many people, however, (ib), which supposedly is converted from (ia) in the same way as in (1-5), is quite unacceptable:

- (i) a. *yong shui xi shou*
 use water wash hand
 'use water to wash hands'
 b. *xi shui*
 wash water
 'use water to wash'

But we claim that (ib) actually is not ungrammatical. What we need is some special context which makes (ib) a plausible scenario in real life. In (ii), a specific context is provided, where washing with water or with some other liquid matters greatly. In this case, expressions of (ib) type become much more acceptable:

- (ii) *Ni shou-shang dou shi huaxue yaopin, bu-yao xi shui, yao xi qiyou.*
 you hand-on all be chemical material don't wash water, should wash gasoline
 'Your hands are all covered with chemical material; don't wash them with water;
 wash them with gasoline.'

Thanks to Dylan Tsai (personal communication) and Shengli Feng (personal communication) for bringing examples of (ia--b) types to my attention and for discussions.

⁵ But see Baker (1988b) for the claim that the instrument in languages like Chichewa is a theta-marked argument. Though interesting theoretical implications follow from this claim, we don't think that it applies to Mandarin Chinese. There are several reasons for this. First, as we will see later, the location, time, and reason adverbial objects are all productive in Mandarin Chinese too. Adhering to the same rationale, we would have to claim that these adverbial expressions are all arguments of the verbs in Mandarin Chinese. This claim is even harder to justify. Second, as we mentioned in footnote 2, the instrument object doesn't receive a wide acceptance in the Chinese dialects. On the other hand, as will be shown in Chapter 5, the location, time, and reason objects fare much better in this regard. If the instrument is considered an argument of the verb, it is hard to understand why most Chinese dialects resist accepting it. Thus, we don't assume that the instrument expression in the (b) sentences in (1-5) has the status of an argument.

Though in the majority of cases the instrument object occurs with a transitive verb, there are examples in which an instrument object occurs with an intransitive verb, such as the following:

- (6) a. yong san-ge yinching fei
 use three-Cl engine fly
 'fly with three engines'
- b. fei san-ge yinching
 fly three-Cl engine
 'fly with three engines'
- (7) a. yong tiao-ban tiao
 use jump-board jump
 'jump [or dive] with a dive board'
- b. tiao tiao-ban
 jump jump-board
 'jump [or dive] with a dive board'

But it seems that this kind of examples are rare. The typical kind of intransitive verbs, such as *ku* 'cry', *xiao* 'laugh', and so on, cannot take an instrument object. In fact, the instrument object seems to correlate with the agentivity of the verb: verbs with high agentivity can take instrument object, but verbs with low agentivity cannot take instrument object. Furthermore, the occurrence of the instrument object and the agentivity of the verb, interestingly, are correlated with whether the verb *yong* 'use' can co-occur with the verb or not. If a verb can occur in a serial verb construction led by *yong* 'use', then the instrument object can occur, such as (1-7). But if a verb cannot occur with *yong* 'use' in a serial verb construction, such

as *ku* 'cry' and *xiao* 'laugh', it cannot take an instrument object. See the following examples:⁶

- (8) a. **yong xiaohua xiao*
use joke laugh
'laugh with the aid of an joke'
- b. **yong dianying ku*
use movie cry
'cry with the aid of a movie'
- (9) a. **xiao xiaohua*
laugh joke
'laugh with the aid of an joke'
- b. **ku dianying*
cry movie
'cry with the aid of a movie'

The verb *yong* 'use' is highly agentive and occurs only with verbs with high agentivity. Thus (8a-b) are ungrammatical, since the verbs *xiao* 'laugh' and *ku* 'cry' represent mental states rather than agentive actions. In (9a-b), where the instrument occurs post-verbally, the ungrammaticality is inherited. Thus it seems that the occurrence of the instrument object has to do with the agentivity of the predicate.

Notice that when an instrument object occurs with a transitive verb, the theme/patient object of the transitive verb cannot occur. Thus the following examples are ungrammatical:⁷

⁶ (9a-b) have an acceptable reading where the adverbial object is understood as a reason, not an instrument. See the discussion on the reason object below.

⁷ The order of the theme/patient and the instrument is immaterial. Both the possible orderings yield ungrammatical expressions.

- (10) a. *xie zhe-zhi bi xin
 write this-Cl pen letter
 'write a letter with this pen'
- b. *kan dongxi wangyuen-jing
 watch thing telescope
 'watch things with a telescope'
- c. *qie rou zhe-ba dao
 cut meat this-Cl knife
 'cut meat with this knife'

In this regard, the instrument object construction in Mandarin Chinese -- in fact the adverbial object construction in general in this language -- is unlike the applicative construction analyzed in Baker (1988a,b), where the theme/patient argument and the instrument (or other applicative expressions, such as the benefactive, goal, and reason) can occur together.

2.2 Location

The adverbial object in a Mandarin Chinese sentence can be a location NP as well.

Consider the following examples:

- (11) a. zai huoche-zhan shui
 at train-station sleep
 'sleep in the train station'
- b. shui huoche-zhan
 sleep train-station
 'sleep in the train station'

- (12) a. zai fan-guan chi fan
at restaurant eat meal
'dine in a restaurant'
- b. chi fan-guan
eat restaurant
'dine in a restaurant'
- (13) a. zai shi-nei da lanqiu
at indoor play basketball
'play basketball indoor'
- b. da shi-nei
play indoor
'play indoor'
- (14) a. zai gausugonglu-shang kai che
at expressway-on drive car
'drive a car on the expressway'
- b. kai gaosugonglu
drive expressway
'drive on the expressway'
- (15) a. zai MIT du-shu
at MIT read-book
'study at MIT'
- b. du MIT
read MIT
'study at MIT'

In the (a) examples, the location NP is introduced by the element *zai* 'at', followed by a VP.⁸ In the (b) examples, however, *zai* 'at' disappears. The location NP remains, but it is shifted to post-verbal position, as if it were the logical object of the verb.

There are several interesting phenomena in the location adverbial objects in Mandarin Chinese.

Firstly, the location objects in the (b) examples in (11-15) are substantially different from the locatives selected by EXIST discussed in Chapter 3. The locative subject introduced by EXIST denotes the location where an eventuality exists or is in the progress of happening. The location object in the (b) examples in (11-15), on the other hand, seems to have a much closer relationship with the action denoted by the verb. To be concrete, let's look at each of the (b) examples in (11-15). In (11b), *huoche-zhan* 'train station' is not only the place where the sleeping occurs; this location is also the goal that the sleeper ends up sleeping in. In (12b), *fan-guan* 'restaurant' does not only denote the place where the dining event takes place; it also has a sense of benefactiveness (the diners get fed there). In (13b), *shi-nei* 'indoor' has a sense of goal too. In (14b), *gaosugonglu* 'expressway' is the location that the driving action traverses, not merely exists. In (15b), MIT actually is not a place where some book-reading event occurs; it is the location with which the one who studies there is formally affiliated. Thus, it seems that the locative subject licensed by EXIST is somewhat "external" to the eventuality, but the location object in (11-15) is "internal" to the predicate.

Secondly, it is not the case that all locations can be adverbial objects. Consider the following examples:⁹

⁸ Just like the instrumental *yong* 'use', we assume that *zai* 'at' in the (a) expressions in (11-15) can be a verb or a preposition. Thus these sentences are structurally ambiguous.

⁹ (16b) has a grammatical reading according to which the topic of chatting is the library. But as an expression that the library is identified as the location where the chatting takes place, it is ungrammatical.

- (16) a. zai tushu-guan liao
 at library chat
 'chat in the library'
- b. #liao tushuguan
 chat library
 'chat in the library'
- (17) a. zai jingcha-ju da jingcha
 at police-station hit police
 'hit policemen in the police station'
- b. #da jingcha-ju
 hit police-station
 'hit in the police station'
- (18) a. zai gongüan-li zuo
 at park-in sit
 'sit in the park'
- b. #zuo gongüan
 sit park
 'sit in the park'

In the (a) examples, there is a location introduced by the element *zai* 'at' denoting the location where the action takes place. In the (b) examples, the location NP occurs as adverbial object. However, all the (b) examples are unacceptable. It seems that the unacceptability of the (b) expressions has to do with the nature of the relationship between the location and the action. We mentioned above that an location adverbial object does not only denote the location where the action happens; it is internal to the eventuality and holds a strong semantic tie with the action. But here in the (b) examples in (16-18), the semantic relationship between the location NP and the action verb seems to be fortuitous -- the

chatting just happens to occur in a library ((16)), the policeman-hitting event happens to occur in a police station ((17)), and the sitting event happens to occur in the park ((18)). These locations don't seem to be in any inherent relationship with the actions in question. It is for this reason that the (b) sentences in (16-18) are unacceptable.

It appears that, whether a particular location NP can be a location adverbial object has to do with whether that location qualifies as a typical place where the action is canonically or conventionally associated with.¹⁰ Here we provide an example to explicate this point.

It is usually the case that a library disallows visitors to eat or drink inside. Suppose that I disregarded the regulations and enjoyed my lunch in one of the study booths in a library. From what I did I can describe the state of affairs to my friends with (19a) as part of the expressions that I use. Since the state of affairs is fortuitous in nature, and the dining event, on the one hand, and the library as the location where I dined, on the other, is not inherently or conventionally associated in any way, according to the earlier observation, (19b) will be an unacceptable expression for me to use describing the state of affairs:

- (19) a. zai tushu-guan chi-fan
 at library eat-meal
 'dine in the library'
- b. #chi tushuguan
 eat library
 'dine in the library'

However, (19b) is not really ungrammatical. It is just semantically/pragmatically odd, since, if I change the scenario, things will be different. This time, suppose I was a homeless

¹⁰ See footnote 4 for the same requirement for the instrumental adverbial object. In both cases, specific contexts are needed for the adverbial objects to be natural and acceptable.

hanging around on the streets in New York City. One day, an altruistic idea incomprehensibly emerged in Major Rudolph Giuliani's mind and, obsessed by that idea, he insisted on spending all the surplus from last fiscal year to feed the homeless. A special part in this unusual plan was that all public institutions in NYC were required to be well equipped with food supply so that a homeless could eat at any public institution that he/she desired to. As a result, providing food became a regular work for all the public institutions in NYC. Albeit a homeless, I had been fascinated by the collections in the New York Public Library on the 5th Avenue. Now I could call for my Mandarin-speaking fellows and suggest to them: "Hey guys, let's ...[(19b)]... tonight!" In this scenario, (19b) is completely out of question. It becomes an acceptable expression for use, for the state of affairs just described.

Comparing the two possible states of affairs, it is clear that, for a location NP to be eligible as a location adverbial object, it must be conventionally thought of as a place that the action denoted by the verb typically takes place. A presuppositional link exists between the verb and the location adverbial object, a link that has to do with the world knowledge. Typically a library doesn't provide food. In that situation, the use of (19b) is unacceptable, as in the first scenario. But if the situation changes to one in which providing food is a regular job that a library is committed to, (19b) becomes acceptable. The highly presuppositional character of the location adverbial object makes it distinct from the locative introduced by the light verb EXIST, which simply denotes the location that the eventuality occurs.¹¹

The location adverbial object resembles the instrument object in requiring high agentivity. Thus, though some intransitive verbs may take the location object, such as (11b) above and (20-21) below, others cannot, such as those in (22-23):¹²

¹¹ Thanks to Shengli Feng (personal communication.) for discussion on this point.

¹² In (20a), we have a different location-introducing element, *wang* 'toward'. In fact this is the only case I can think of that *zai* 'at' is not used. As far as I can tell, the use of *wang* 'toward' here doesn't seem to have any adverse effect on the analysis that we are going propose. In section 3.2, the light verb AT is proposed

- (20) a. wang Taipei fei
toward Taipei fly
'fly to Taipei'
- b. fei Taipei
fly Taipei
'fly to Taipei'
- (21) a. zai cao-chang pao
at sport-field run
'run in the sports field'
- b. pao cao-chang
run sport-field
'run in the sports field'
- (22) a. zai fang-li ku
at room-in cry
'cry in the room'
- b. *ku fang-li
cry room-in
'cry in the room'
- (23) a. zai xiyuan xiao
at theater laugh
'laugh in the theater'
- b. *xiao xiyuan
laugh theater
'laugh in the theater'

to license the location adverbial object. It is not associated with the words *zai* 'at' or *wang* 'toward' in any direct way.

Also, the location object, just like the instrument object, cannot co-occur with the theme/patient object of the transitive verb. The following examples illustrate this point:

- (24) a. *chi fan fan-guan
eat meal restaurant
'dine in a restaurant'
- b. *da qiu shi-nei
play ball indoor
'play ball games indoor'
- c. *kai gaosugonglu che
drive express-way car
'driving on the expressway'

In fact, this point holds for all the adverbial objects. We will return to this question in section 3.3.

2.3 Time

The examples for the time adverbial object are given below:

- (25) a. zai shangwu shui
 at morning sleep
 'sleep in the morning'
- b. shui shangwu
 sleep morning
 'sleep in the morning'
- (26) a. zai ban-yie fei
 at mid-night fly
 'fly at midnight'
- b. fei ban-yie
 fly mid-night
 'fly at midnight'
- (27) a. zai wanshang zuo shi
 at night do work
 'work in the night'
- b. zuo wanshang
 do night
 'work in the night'
- (28) a. zai xiawu da chiu
 at afternoon play ball
 'play ball games in the afternoon'
- b. da xiawu
 play afternoon
 'play ball games in the afternoon'

(25-26) are examples with intransitive verbs, and (27-28) are examples with transitive verbs. Again, the time object requires high agentivity, so verbs such as *ku* 'cry' and *xiao* 'laugh' cannot take a time object:

- (29) a. zai zaoshang ku
 at morning cry
 'cry in the morning'
- b. *ku zaoshang
 cry morning
 'cry in the morning'
- (30) a. zai xiawu xiao
 at afternoon laugh
 'laugh in the afternoon'
- b. *xiao xiawu
 laugh afternoon
 'laugh in the afternoon'

Also, like all other adverbial objects, the time objects cannot co-occur with the theme/patient object of the transitive verbs. We omit the examples.

2.4 Reason

The examples for the reason adverbial object are given below:

- (31) a. wei guo-po-jia-wang ku
 for country-break-home-perish cry
 'cry for the disintegration of country and the perish of home'

- b. ku guo-po-jia-wang
cry country-break-home-perish
'cry for the disintegration of country and the perish of home'
- (32) a. wei xiaohai bu tinghu fannao
for child not obedient annoyed
'[get] annoyed for the child's being not obedient'
- b. fannau xiaohai bu tinghua
annoyed child not obedient
'[get] annoyed for the child's being not obedient'
- (33) a. wei zhe-ge huangmiu-de jieju qi
for this-Cl ridiculous-Mod ending angry
'[get] angry for this ridiculous ending'
- b. qi zhe-ge huangmiu-de jieju
angry this-Cl ridiculous-Mod ending
'[get] angry for this ridiculous ending'
- (34) a. wei tou-tong chi (de) yao
for head-ache eat (Mod) medicine
'the medicine for curing headache'
- b. chi tou-tong (de)
eat head-ache (Mod)
'[the medicine is for] curing headache'
- (35) a. wei chüwei wan pai
for fun play card
'play card games for fun'
- b. wan chüwei (de)
play fun (Mod)
'Play [card games] for fun'

- (36) a. wei guoyin he jiu
 for feel-good drink wine
 'drink wine for [pursuing] good feeling'
- b. he guoyin (de)
 drink feel-good (Mod)
 'drink [wine] for [pursuing] good feeling'

(31-33) are examples with intransitive verbs, and (34-36) are examples with transitive verbs. The reason adverbial object in Mandarin Chinese has several particular features that make it different from other types of adverbial objects. First, the reason object may occur with intransitive verbs with low or even no agentivity, such as the emotion-expressing verbs *ku* 'cry', *fannaο* 'worry', and *qi* 'get angry' in (31-33). This is not possible with the other types of adverbial objects, as we have seen. Second, when a transitive verb takes a reason object, its use must be stative. Thus, the (b) examples in (34-36) cannot take an agent subject, as evidenced by the following examples:¹³

- (37) a. *Laowang chi tou-tong.
 p.n. eat head-ache
 'Laowang took [medicine] for headache.'
- b. *Women wan chūwei.
 we play fun
 'We play [card games] for fun.'
- c. *Xiaoli he guoying.
 p.n. drink feel-good
 'Xiaoli drinks [wine] for [pursuing] good feeling.'

¹³ In (38b-c), the subject is a gerundized clause. We assume that it bears the thematic role of theme.

- (38) a. Zhe-zhong yao shi chi tou-tong de.
 this-CI medicine be eat head-ache Mod
 'This medicine is for curing headache.'
- b. Wan-pai shi wan chüwei, bu-yao tai jijiao.
 play-card be play fun don't too count
 'Card-games are for fun; don't count too strictly.'
- c. He-jiu shi he guoyin de, bie yi-fu ku-ha-ha de yangzi.
 drink-wine be drink feel-good Mod don't one-CI bitter Mod appearance
 'Drinking is for enjoying good feelings; don't look bitter.'

Like all other adverbial objects, the reason objects cannot co-occur with the theme/patient object of a transitive verb. We omit the examples.

There is a special type of adverbial objects that look quite similar with the reason objects. In particular, they have the form of (38a-c) and require a theme subject. But there is a subtle difference in meaning. In this type of adverbial objects, the adverbial object seems to refer more to the cause for (a better performance of) the action, than to the reason of the action. Below are some examples:

- (39) a. Da Majiang da shou-qi, da qiaopai da jishu.
 play Majiang play hand-spirit play bridge play technique
 'Playing Majiang requires luck; play bridge requires techniques.'
- b. He-jiu shi he qingdiao de.
 drink-wine be drink atmosphere Mod
 'Drinking requires good atmosphere.'

Lacking evidence suggesting the contrary, we take (38a-b), the "cause"-type of adverbial objects, as a sub-type of (31-36) and group them together.

3. Analysis

In this subsection we provide an account for the adverbial object construction in Mandarin Chinese. There have been proposals in literature on how the adverbial objects in Mandarin Chinese should be analyzed. The proposed accounts, however, are divergent from one another. S. Huang (1982) considers the adverbial objects on a par with the "logical" objects of the transitive verbs, i.e., as selected arguments. But we already pointed out that this kind of proposal is not really desirable. The adverbial objects are very productive in Mandarin Chinese. If they are internal arguments of the verbs, we would be forced to claim that all verbs in Mandarin Chinese have instrument, location, time, and reason as internal arguments, a claim general enough to nullify any serious account for the licensing of arguments in Mandarin Chinese.¹⁴ A different account for the adverbial objects, proposed by Hou (1979), is that the adverbial objects are no different from other adverbs in Mandarin Chinese sentences, and their post-verbal occurrences result from some advancement rule in the framework of Relational Grammar. But, again, this proposal is not tenable. For one thing, positing an advancement rule from adverb to object does nothing but restate the question. For another, adverbials in Mandarin Chinese typically occur pre-verbally. If the adverbial objects are no different from the regular kinds of adverbs, it is not clear how they can occur post-verbally and exhibit close thematic ties with the verb. In conclusion, neither proposal, the "object" hypothesis or the "adverb" hypothesis, can satisfactorily account for the adverbial object construction way. A more articulated analysis is needed. In the following we propose an analysis based on the light verb syntax developed in earlier chapters.

¹⁴ See Guo (1999) for a similar point on the selection of the adverbial objects in Mandarin Chinese. In Guo's work, the focus of discussion is on the intransitive verbs with surface (adverbial) object.

with the perfective aspectual marker *-le*, a privilege exclusively for verbs in Mandarin Chinese:

- (45) a. **yong-le** san-ba dao qie rou
use-Perf three-Cl knife cut meat
'use three knives to cut meat'
- b. **wei-le** nü-haizi ku
for-Perf girl cry
'cry for [leaving of a] girl'

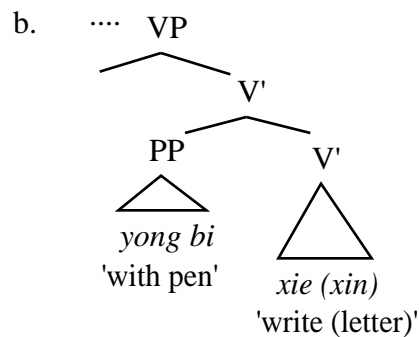
Secondly, though *zai* 'at' (location) cannot be suffixed with any aspectual marker,¹⁵ its verbal status can be seen in sentences where the VP that follows it is topicalized, as in (46b). *Zai* 'at' in this case can be further negated, as in (46c), exhibiting quite solid verbal characteristics:

- (46) a. Laowang pingchang **zai** fan-guan chi fan.
p.n. usually at restaurant eat meal
'Laowang usually dines in a restaurant.'
- b. Chi fan, Laowang pingchang **zai** fan-guan.
eat meal, p.n. usually at restaurant
'[As to] dining, Laowang usually [does it] in a restaurant.'
- c. Chi fan, Laowang pingchan bu **zai** fan-guan.
eat meal p.n. usually not at restaurant
'[As to] dining, Laowang usually doesn't [do it] in a restaurant.'

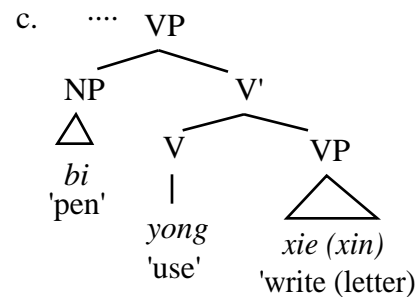
¹⁵ *Zai* 'at' is usually thought to have a close relationship with the durative aspectual marker *-zhe* in semantic function (cf. Pan 1996 and references cited there). It is itself aspectual. This is the reason why it cannot take an aspectual marker.

An immediate consequence from the verbal status of *yong* 'use', *zai* 'at', and *wei* 'for' is that, the (a) examples in (40-43) in fact are structurally ambiguous -- on the one hand, they can be a VP structure with a pre-verbal PP modifier; on the other, they can be serial verb constructions, with a VP taking another VP as complement. The two possible structures are represented below, taking the instrumental *yong* 'use' as an example:

- (47) a. *yong bi xie (xin)*
 use pen write (letter)
 'use a pen to write (a letter)'



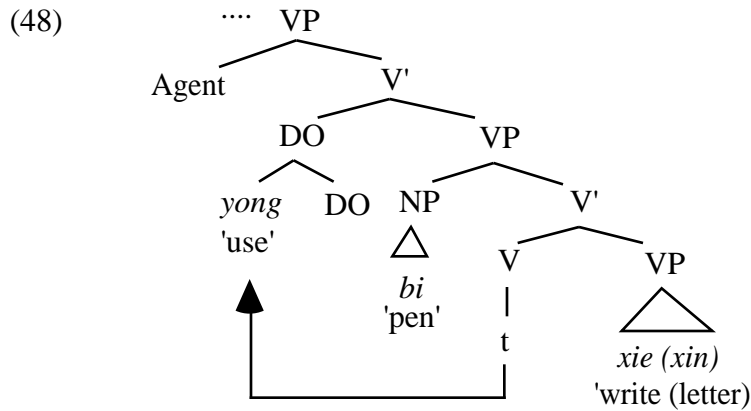
PP modification



VP complementation

(47b) is a VP structure with an instrumental PP that modifies the V', and (47c) is a VP structure headed by *yong* 'use', with the instrument NP *bi* 'pen' as specifier and another VP, *xie (xin)* 'write (letter)', as complement. While both (47b) and (47c) are possible structures for (47a), we will ignore (47b) and concentrate on (47c). In (47c), the instrument NP occurs in the Spec position of the *yong*-VP. Of course, this is not the surface word order we see in (47a). But remember from section 2.1 that the verb *yong* 'use' has to be used with highly agentive verbs. Thus, in the full structure where (47c) is a part, the subject-selecting light verb DO must occur. The verb *yong* 'use' incorporates to DO, leaving the instrument

NP *bi* 'pen' behind, yielding the surface structure as in (47a). This point is represented in the diagram below:¹⁶



There is evidence that the structure in (48) is the right one. According to this structure, *yong bi* 'use pen' is not a constituent, though *xie (xin)* 'write (letter)' is. Constituency tests show that this is the case. Firstly, conjunction phenomena indicate that the instrument NP form a constituent with the lower VP, as the following example shows:

- (49) Laowang yong-le san-zhi bi xie xin, wu-ba dao qie cai.
 p.n. use-Perf three-Cl pen write letter five-Cl knife cut vegetable
 'Laowang used three pens to write letter, five knives to cut vegetable.'

Secondly, topicalization phenomena indicate that *yong* 'use' and *bi* 'pen' don't constitute a constituent, as they cannot be preposed together. The expression *xie xin* 'write letter', on the

¹⁶ If the theme/patient object of a transitive verb always occurs in the Spec position of the VP that the transitive verb projects, then the NP *xin* 'letter' in the lowest VP (the one with a triangle) in (48) must be at the left of the verb *xie* 'write' underlyingly, rather than at the right. To derive the correct word order, we may assume that the light verb DO occurs in the triangle VP and the verb *xie* 'write' moves to it. This lower DO will be responsible for the agentivity of verb *xie* 'write' and have nothing to do with all higher elements. The subject of this lower DO can be a Pro controlled by the agent NP selected by the higher DO. See Collins (1997b) for discussion on control in the serial verb construction. Thanks to Jim Huang for relevant discussion.

other hand, can be preposed as a single unit. The following examples illustrates this contrast:¹⁷

- (50) a. *Yong mao-bi, Laowang xie xin.
 use fur-pen p.n. write letter
 'With a Chinese brush, Laowang wrote a letter.'
- b. Xie xin, Laowang yong mao-bi.
 write letter p.n. use fur-pen
 '[As to] writing letters, Laowang uses Chinese brushes.'

With these examples, the legitimacy of the structure in (48) is firmly established. This claim arguably can be extended to those structures with *zai* 'at' and *wei* 'for'. This observation will be the basis for the following analysis.

¹⁷ There are actually grammatical sentences where the *yong* 'use' expression moves to the sentence topic position, like the following:

- (i) Yong zhe-zhi mao-bi, Laowang xie-le henduo xin.
 use this-Cl fur-pen p.n. write write-Perf many letter
 'With this Chinese brush, Laowang wrote many letters.'

But in (i) the verb *xie* 'write' is suffixed with the perfective aspectual marker *-le*, and this indicates that *xie* 'write' is the main verb of the sentence. *Yong zhe-zhi mao-bi* 'use this Chinese brush', therefore, is a topicalized PP. It arises from the structure in (47b), rather than the one in (47c). Incidentally, even in a serial verb construction, there can only be one aspectual marker, as the following examples show:

- (ii) a. yong-**le** san-zhi bi xie xin
 use-Perf three-Cl write letter
 'use three pens to write letters'
- b. yong bi xie-**le** san-feng xin
 use pen write-Perf three-Cl letter
 'use a pen to write three letters'
- c. *yong-**le** san-zhi bi xie-**le** san-feng xin
 use-Perf three-Cl pen write-Perf three-Cl letter
 'use three pens to write three letters'

(iic) is only acceptable as VP conjunction (with a pause between the two VPs), but not as a serial verb construction.

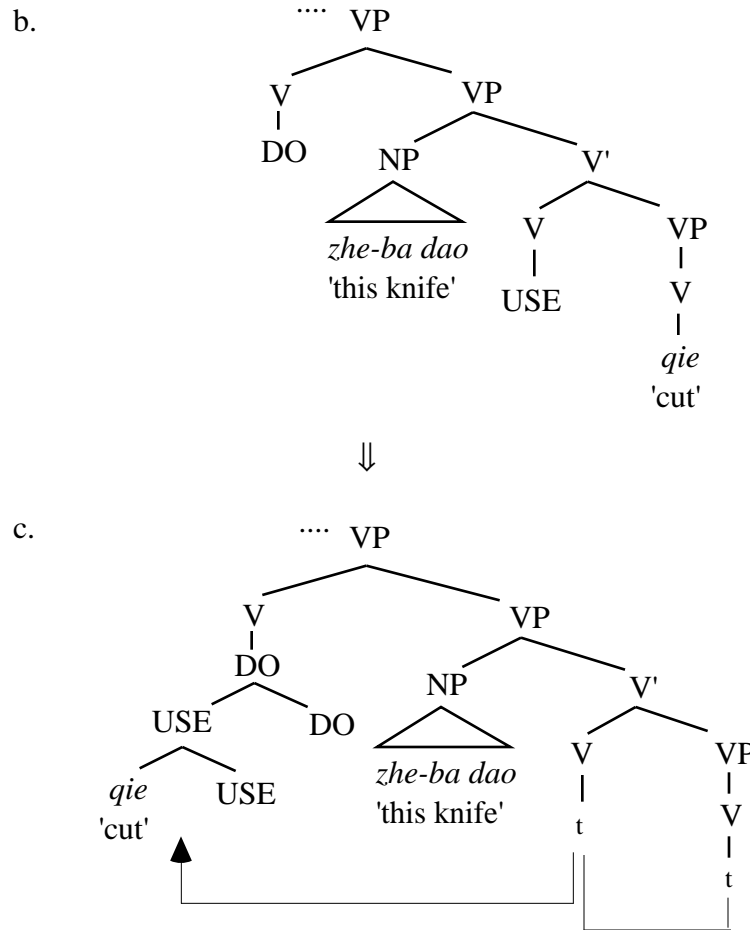
3.2 A light verb account: disguised serial verb construction

A special feature in the adverbial object construction in Mandarin Chinese is that the verb is not used with its original meaning. It is used with the meaning of the adverbial-introducing verb, *yong* 'use', *zai* 'at' and *wei* 'for', and its original meaning serves as an adverbial component in the whole verbal meaning. For example, *xie zhe-zhi bi* 'write this pen' in fact means "to use this pen in a writing way," and *chi fan-guan* 'eat restaurant' means "to be in a restaurant having to do with dining." Thus there is good reason to believe that we have an instance of *conflation* here, and that light verb analysis is appropriate for the adverbial object construction.

Our account goes as follows. Suppose that the adverbial object construction is in fact a disguised serial verb construction, and that *yong* 'use', *zai* 'at', and *wei* 'for' occur in the structure, in the form of light verbs. Let's call these light verbs USE, AT, and FOR. These light verbs are exactly like those that license subject arguments, such as EXIST, CAUSE. They have the following properties: they don't have phonetic forms, they encode specific aspects of the eventuality, and the main verb incorporates to them. Thus, we can account for the adverbial object construction by assuming that, the main verb first conflates with the adverbial-introducing light verb, and then with the subject-selecting light verb, yielding the surface structure where the adverbial occurs post-verbally.

Let's look at the structural analyses and derivations for the three adverbial-introducing light verbs. First look at the instrument USE:

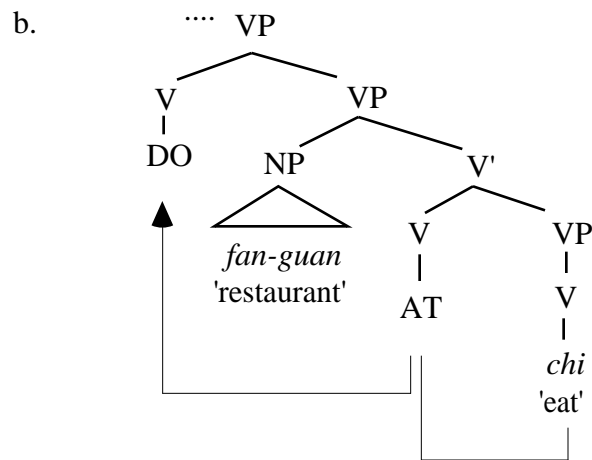
- (51) a. *qie zhe-ba dao*
 cut this-CI knife
 'use this knife to cut'



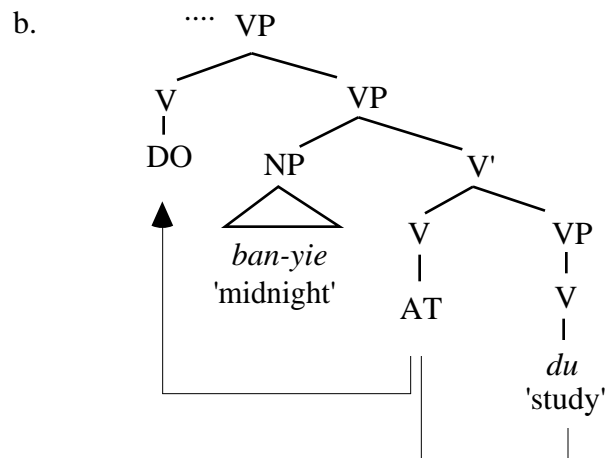
(51b) is the underlying representation for (51a), in which the light verb DO takes the USE-VP as complement. The USE-VP takes an instrument NP, *zhe-ba dao* 'this knife', as specifier, and the VP projected by the main verb *qie* 'cut' as complement. This structure is essentially the same as (47c), a serial verb structure, except that in (51b) the instrument-introducing element occurs as a light verb, USE. As a light verb, USE cannot stand alone; it requires phonetic support from some other lexical item. As a result, it attracts the main verb, *qie* 'cut' to incorporate to it. The resulting verbal complex then further moves up to the subject-selecting light verb DO, as in (51c). In this way, we account for the post-verbal instrument object: it is not really an internal argument selected by the main verb; rather, it is an internal subject licensed by the light verb USE.

The same analysis applies to AT, which introduces a location or a time. The structural analyses and derivations are given below:

- (52) a. chi fan-guan
eat restaurant
'dine in a restaurant'



- (53) a. du ban-yie
read mid-night
'study in the midnight'



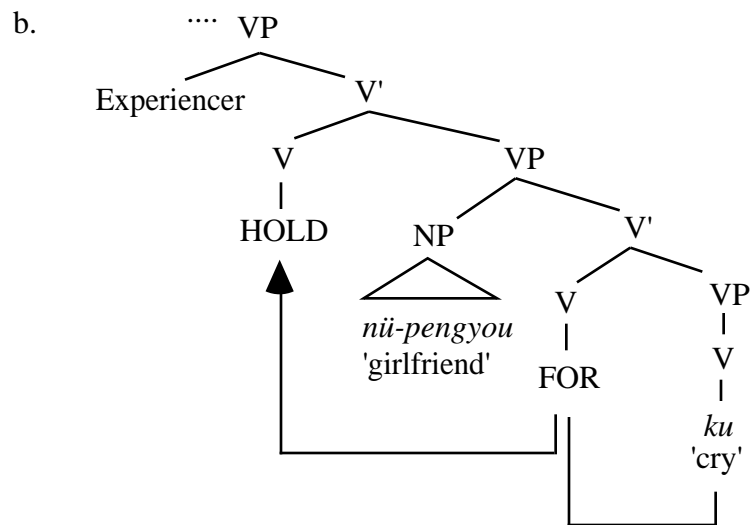
In (52b), the light verb AT takes a location, *fan-guan* 'restaurant', and in (53b), a time, *ban-yie* 'midnight', as specifier. In both cases, the verb moves up to AT, and then further up to DO, yielding the surface structures (52a) and (53a).

Recall from section 2.2 that not all locations can be location adverbial objects -- for a location NP to be an adverbial object of a verb, it must denote a place where the action denoted by the main verb conventionally takes place. Looked in terms of the light verb syntax that we propose, the presuppositional nature of the relationship between the location NP and the verb can be captured by the selectional restriction between the subject that the AT-VP takes (the location NP) and its sister V' complex predicate. Taking (52b) as an example, *fan-guan* 'restaurant' is an acceptable subject to the V' that AT projects, but *tushu-guan* 'library' is not (in conventional circumstances), because a checking function exists in the light verb AT which checks if the NP subject it takes is compatible with the semantic/pragmatic attributes that the speaker would assign to the main verb, *chi* 'eat', which AT takes as complement. Thus, *chi fan-guan* '(lit.) eat restaurant' and *chi tushu-guan* '(lit.) eat library' in Mandarin Chinese are comparable to *John ate a lot* and *The rock ate a lot* in English. That is, the acceptability of the expression depends much on the conventions in the world we are assuming. The structure itself doesn't make any difference.

Now let's turn to the reason adverbial object. Basically, the same style of light verb analysis can be proposed for the reason object. But remember that the reason object has several particular features that make it different from the other adverbial objects. We pointed out earlier that the reason object may occur with non-agentive verbs, such as *ku*, 'cry', *fannaο* 'be annoyed', etc.. Since these verbs lack agentivity, we assume that they don't occur with the agentive light verb DO. Instead, we assume that they are complements of the light verb HOLD. The subject that HOLD takes is fairly much like an experiencer, not an

agent.¹⁸ With the light verb HOLD, we can now carry the same light verb analysis as USE and AT to the reason object, with the light verb FOR, which introduces a reason:¹⁹

- (54) a. ku nü-pengyou
 cry girl-friend
 'cry for girlfriend'



In the structure in (54b), the light verb FOR takes a reason NP, *nü-pengyou* 'girlfriend', as specifier, and the VP projected by the main verb *ku* 'cry' as complement. The FOR-VP itself is the complement of the light verb HOLD, which takes an experiencer as specifier. Thus, the analysis for the reason object construction is identical to the ones for the instrument and location/time objects.

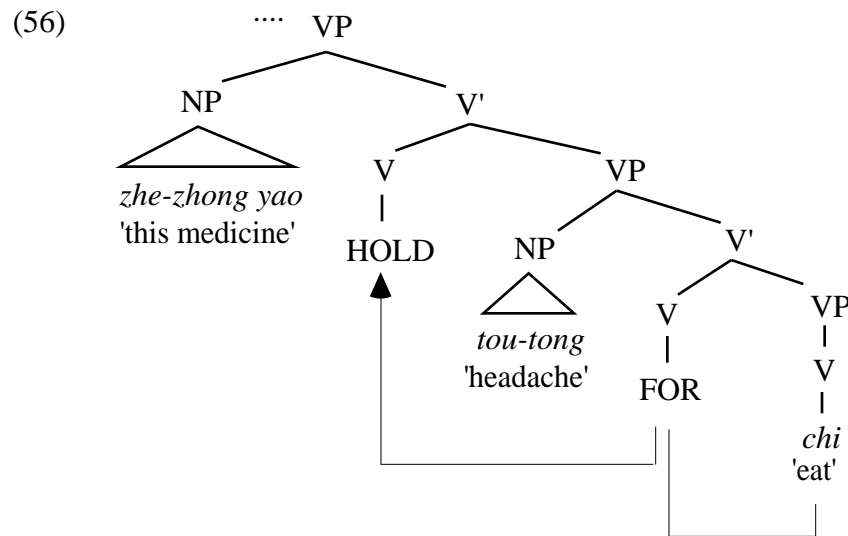
¹⁸ In Chapter 2, we follow Huang (1997) and assume that the light verb HOLD is responsible for the stative use of verbs in Mandarin Chinese. Here we generalize the function of HOLD to cover the active but agentless use of verbs, such as the case of the emotion-expressing verb *ku* 'cry' and *xiao* 'laugh'. Finer distinctions among the "stative verbs" are possible, of course. In particular, it seems necessary to make a distinction between the stage-level and individual-level predicates, even though both can be statives. An instance with direct relevance is such proposals as Kural's (1996), who postulates the light verbs ACT for activeness and VOL for volition/agentivity. But since issues on a complete set of light verbs and an exhaustive description of the possible eventuality structures in Mandarin Chinese are beyond the scope of this thesis, we will leave them for future research.

¹⁹ Though in (54b) we have an NP as the specifier that FOR takes, actually it can be a CP, as evidenced by examples such as (31b) and (32b). We ignore the relevant discussion.

Another special feature about the reason object is that, when a reason object occurs with a transitive verb, the transitive verb must be used statively. Some examples are repeated below:

- (55) a. *Laowang chi tou-tong.
 p.n. eat head-ache
- b. Zhe-zhong yao shi chi tou-tong de.
 this-Cl medicine be eat head-ache Mod
 'This medicine is for curing headache.'

In the light of the above discussion, we assume that the stative use of the transitive verbs with reason objects is a function of the stative light verb HOLD. Thus the analysis for (55b) should be as in (56):



In (56), the FOR-VP is the complement of the stative light verb HOLD, which takes a theme as its subject. This structure underlies a semantics which states: "This medicine has a property such that it is for headache, in the manner of eating."

From (54-56), it is clear that FOR is a light verb that must be embedded in a HOLD predicate. It cannot be embedded in a DO predicate. It is this special property of the light verb FOR that makes the reason objects distinct from all other types of adverbial objects in Mandarin Chinese. But the style of the analysis remains the same: a subject-selecting light verb takes as complement a VP projected by an adverbial-selecting light verb, and the adverbial-selecting light verb takes as complement the VP that the main verb projects. The main verb then cyclically incorporates to the two light verbs, yielding the surface structure with post-verbal adverbial object. In this way, the adverbial object construction is accounted for, in essentially the same way as the selection of the subject argument in Mandarin Chinese. The light verbs matter, not the selection of the main verb.

3.3 The problem of the theme/patient object

3.3.1 Optionality of the theme/patient object

The reader may have already found that, in our analysis of the adverbial object construction, the "logical" object of a transitive verb is not assumed to be obligatory. When the light verb USE, AT, or FOR occurs in the structure and take a transitive VP as complement, like *qie* 'cut' in (51b), *du* 'read' in (53b), and *chi* 'eat' in (56), the theme/patient object does not occur. In fact, it cannot occur. We have pointed out in earlier discussions that, when a transitive verb takes an adverbial object, the theme/patient object that the transitive verb is assumed to take cannot occur in the structure. Some examples are repeated below:

- (57) a. *xie zhe-zhi bi xin
 write this-CL pen letter
 'write a letter with this pen'
- b. *chi fan-guan fan
 eat restaurant meal
 'dine in a restaurant'

How can this question be accounted for?

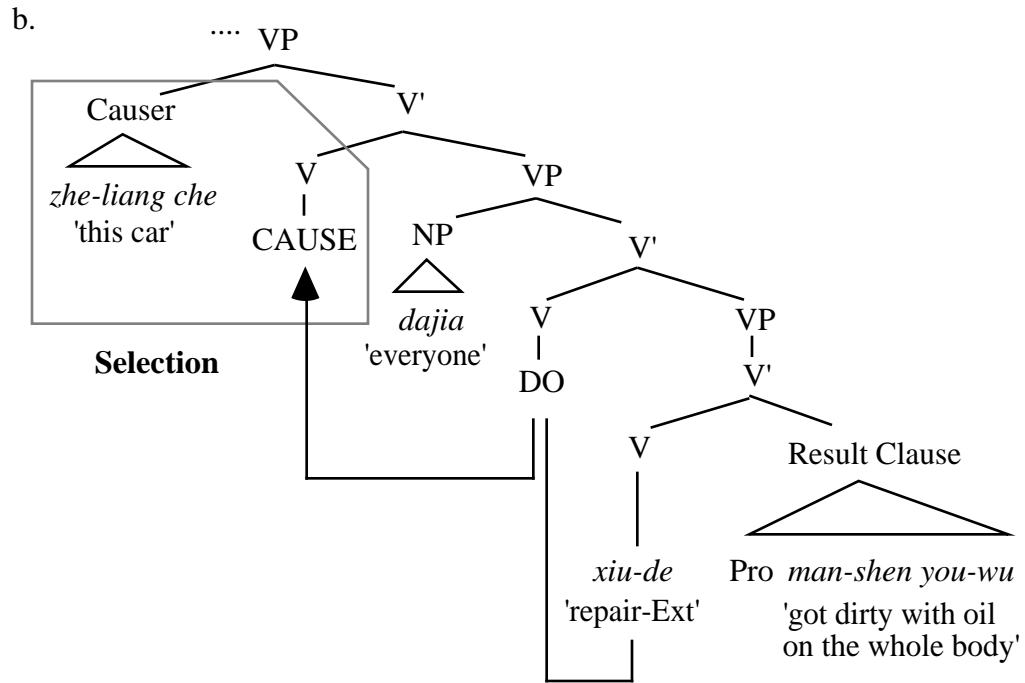
This question has to do with the way in which an argument is licensed in a phrase structure. We have proposed in section 1.1 of Chapter 3 that a transitive verb in Mandarin Chinese actually doesn't take an internal argument -- the object of a transitive verb in fact is a specifier, licensed by the sister V' via predication. The theme/patient argument of a transitive verb is an internal subject (cf. Bowers 1993 and HK 1993). We would like to extend this proposal further, and postulate the following hypothesis:

(58) *All arguments in a Mandarin Chinese sentence are specifiers of VPs, licensed by subject-predicate relationship.*

The subject of a sentence is the specifier of the subject-selecting light verb, such as DO, EXIST, and CAUSE, and an adverbial object is the specifier of an adverbial-selecting light verb, such as USE, AT, and FOR. Likewise, the theme/patient object of in a sentence, which is typically thought to be the internal argument of a transitive verb, is the specifier in the VP that the transitive verb projects. Thus, all arguments are subjects, and their occurrences are licensed via predication with a V' (cf. Williams 1980, Rothstein 1983, HK 1993, among others; also footnote 12 of Chapter 3).

Notice that (58) only mandates that an argument be a subject of a V'; it is not bi-directional and requires all predicates to have a subject. Thus a subject should be optional for a V'. An example is readily available for illustration. We have seen in Chapter 3 that the *-de* descriptive/resultative construction in Mandarin Chinese involves complex predicate formation (Huang 1988). In that construction, a transitive verb doesn't take the theme/patient object it is supposed to; it takes a resultative secondary predicate. An example is given below (= (76-77) in Chapter 3):

- (59) a. Zhe-liang che xiu de dajia man-shen you-wu.
 this-Cl car repair Ext everyone whole-body oil-dirty
 'Repairing this car made everyone get dirty with oil on the whole body.'

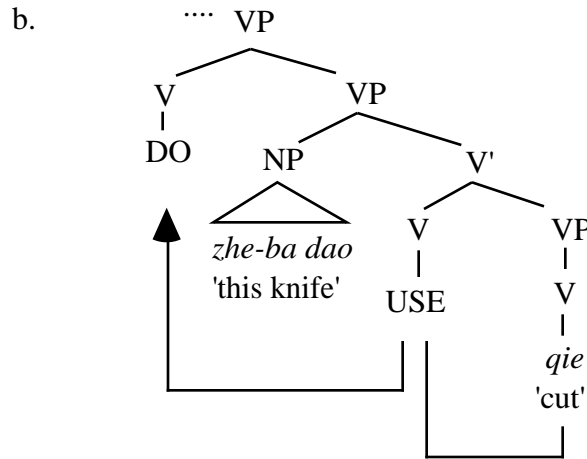


In (59b), the main verb *xiu* 'repair' takes a resultative clause, *Pro man-shen you-wu* 'Pro get dirty with oil on the whole body', as complement, resulting in a complex predicate. This V' complex predicate then is embedded under a light verb projection, headed by DO. Notice that the main verb *xiu* 'repair' does not have a specifier for its own; rather, the closest argument is the one introduced by the light verb DO, *dajia* 'everyone'. Thus, if our analysis is correct, the merger of a subject to a V' cannot be obligatory. It must be optional.

We believe that this is exactly what happens in the adverbial object construction.

Consider, for instance, the case of the instrument object:

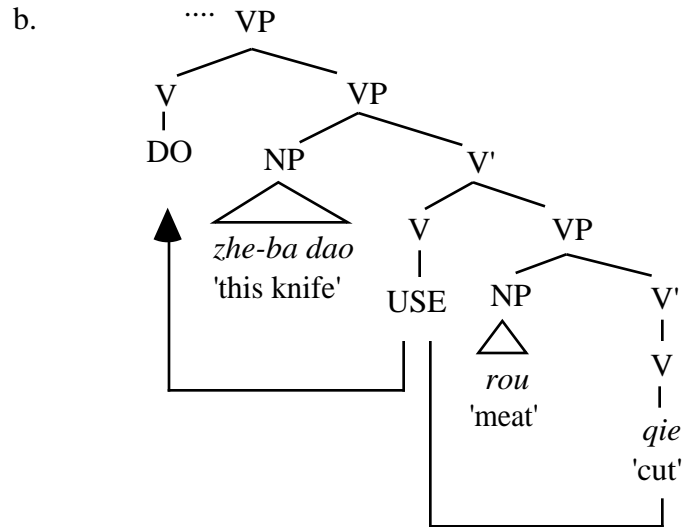
- (60) a. *qie zhe-ba dao*
 cut this-Cl knife
 'use this knife to cut'



In (60b), the verb *qie* 'cut' projects a VP without a specifier. This VP is then embedded to the light verb USE. Since *qie* 'cut' doesn't need to have a specifier, the VP it projects only contains a lexical item, the verb *qie* 'cut' itself. The light verb USE takes the main VP as complement, and then licenses a subject, *zhe-ba dao* 'this knife'. In (60b), the main verb *qie* 'cut' doesn't contribute any argument to the structure.

But of course the verb *qie* 'cut' in (60b) can have a specifier as an option, resulting in a structure that contains both the adverbial object and the real object, as shown in the following:

- (61) a. **qie zhe-ba dao rou*
 cut this-Cl knife meat
 'use this knife to cut meat'



We have seen that examples like (61a) are ungrammatical. How can we rule out this option?

It seems that the key to this question is Case. Huang (1982) has noticed that, in typical situations, a verb in Mandarin Chinese can take only one post-verbal element. Li (1985, 1990) further proposes that this effect has to do with Case assignment by the verb -- a verb in Mandarin Chinese can only assign one Case. For a transitive verb, the Case will be assigned to the theme/patient object. But if there is more than one post-verbal element in a Mandarin Chinese sentence, since there is only one Case to be assigned, one of the post-verbal elements will fail to receive Case, resulting in a violation of Case Filter (Chomsky 1981). Notice that the ungrammatical example in (61a) can be well accounted for with this hypothesis. There are two post-verbal elements in a (61a-b), the instrument adverbial object and the theme/patient object. Since there is only one Case to assign from the transitive verb, the element that fails to receive Case -- be it the instrument or the theme/patient -- will violate Case Filter, resulting in ungrammaticality of the structure.

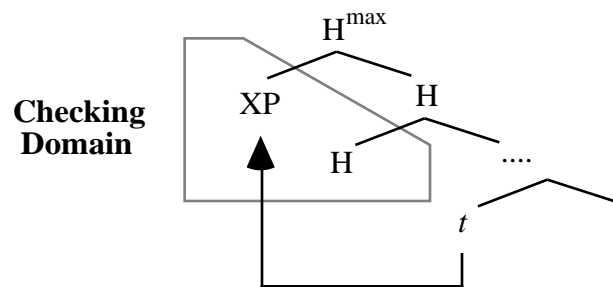
We adopt Li's (1985, 1990) insight in its spirit and take it as the basis for the account to be articulated below. Since the theory of Case has undergone dramatic changes as grammatical theory develops, it is difficult to apply Li's (1985, 1990) analysis in its

original form to our questions. But we will see below that it is still possible to adhere to the essence of Li's (1985, 1990) proposal and articulate an analysis to the same effect. Before getting to it, let's first turn to the current theory of Case.

3.3.2 Case checking as predication

In the current assumptions on Case theory (cf. Chomsky 1995, 1998, 1999, and many other works inspired by them), Cases are features to be checked. The current grammatical theory makes great uses of features as motivation for syntactic movements. Features can be interpretable or uninterpretable, the former including Tense and Wh features, and the latter, specifically, Case. The way for features to be checked is via XP movement to the Spec position of a head H, where XP and H check each other's feature via Spec-Head agreement. The process is represented in the following diagram:

(62)



In (62), the maximal projection XP moves from below and merges to H as its specifier, entering its checking domain, yielding H^{\max} . H can be either of the feature-bearing heads C, T, or v . In this Minimalist framework, syntactic movements are feature-driven. A maximal projection is attracted by some feature of a head so that the two can check each other's features.²⁰ If an (uninterpretable) feature fails to be checked, the derivation crashes, resulting in ungrammaticality. (Feature-unrelated movements are relegated to the PF component of grammar as stylistic movements.) As is clear from this brief introduction, in the current theory, Case, as an instance of uninterpretable features, cannot be "assigned."

²⁰ Chomsky (1999) considers head movement a PF operation. Thus, according to this new hypothesis, head movement has no bearing on feature checking.

Rather, it has to be checked, via syntactic movements and Spec-head agreement. Feature checking, in particular those instances pertaining to Case, is a major force generating observable, typologically different surface structures in different languages. Features can be strong or weak, hence feature checking may be carried out in Syntax or LF (Chomsky 1995). They motivate overt or covert syntactic movements.

There are problems when we fit this framework to the phenomena in Mandarin Chinese. For one thing, Mandarin Chinese doesn't exhibit any Case-related effect -- there is no inflection, nor other similar grammatical phenomena, in this language. In view of this fact, the theory of Case-feature checking can hardly be empirically justified in Mandarin Chinese. Furthermore, there is no evidence that XPs in Mandarin Chinese undergo overt or covert movement to check some uninterpretable features of a head H.²¹ Consequently, there doesn't seem to be reason to assume that, in Mandarin Chinese, Case-feature checking plays a role in the core syntax.

Even so, however, it is still possible to find a grammatical mechanism in Mandarin Chinese that is comparable to Case-feature checking. An insight about Case assignment in the Government-Binding framework is that it licenses the occurrence of an NP with a *phonetic form* (Chomsky 1981, 1986a).²² Also, there have been proposals that the Case feature can be discharged via phonetic realization, not necessarily via movement and Spec-Head agreement (Takano 1996, Fukui and Takano 1998). All these suggest that Case-

²¹ Huang (1993) argues that the VP-Internal Subject Hypothesis (VISH, cf. Kitagawa 1986, Kuroda 1988, Koopman and Sportiche 1991) holds in Mandarin Chinese. That is, the subject argument of a Mandarin Chinese sentence is base-generated inside the VP and moves to IP Spec in later derivation. In Chapter 5 we will argue that the tense projection, TP, exists in Mandarin Chinese, and the subject in a Mandarin Chinese sentence move to TP Spec in the syntactic derivation. All these indicate that NP movement is an operation in Mandarin Chinese. But we assume that this operation has no bearing on feature checking, since there is no observable agreement between the subject and the functional head Tense. Rather, we assume that this movement has to do with the requirement of predication (Rothstein 1983). Thus, the existence of NP movement does not necessarily imply uninterpretable-feature checking.

²² Chomsky's (1986a) Case Filter states:

"Every phonetically realized NP must be assigned (abstract) Case." ((34), p.74)

Later in the same discussion Chomsky makes a distinction between structural Case and inherent Case, but the relevance to the phonetic realization of NPs doesn't seem to alter.

feature checking, or any mechanism comparable to it, is a process at the Syntax-PF interface. To wit, an NP with a phonetic form must satisfy some formal condition before it is spelled out and sent to PF. What is the formal condition that is at work at the Syntax-PF interface in the grammar of Mandarin Chinese? We propose that it is the *subjecthood* of an NP. An NP in Mandarin Chinese can have a phonetic realization only if it is the subject of a predicate, as we proposed in (58).

Notice that feature checking occurs between a specifier and a head, as in (62). The configuration in (62) actually is comparable to a subject-predicate relationship, except that, in (62), the raised specifier XP and the head H do not have a selectional relationship. This is why Case checking in this configuration is *structural*. On the other hand, if our claim in (58) is correct, all arguments in Mandarin Chinese must be introduced into a sentence as a subject, semantically via predication with a V' and syntactically via merger to the specifier position of an VP. Since predication is a semantic relation, all phonetically realized NPs in Mandarin Chinese are *semantically licensed*. In terms of Chomsky's (1986a) theory of Case, they all get *inherent Case*. The situations in English and in Mandarin Chinese can be explicated by the following metaphor: the head H in English is like a raising verb, whereas the head H in Mandarin Chinese is like a control verb. A raising verb doesn't hold a semantic relationship with its specifier, as in (62); but a control verb holds a selectional relationship with its specifier, as in Mandarin Chinese.

Now a mechanism that matches the special situation in Mandarin Chinese can be proposed for the licensing of the phonetic realization of an NP argument, based on subjecthood and predication. We suggest that the following conditions hold in Mandarin Chinese:

- (63) a. *Formal Licensing*
- In Mandarin Chinese, an NP must be a formal subject of a predicate to be phonetically realized.²³
- b. *Identity of Subjecthood*
- The subjecthood of an NP can be identified in either of the following ways:
- (i) The NP is the only sister of a V' with a lexical head V;²⁴
- (ii) The NP is the only sister of a V' without a lexical V, but the V can be identified via syntactic reconstruction.
- c. *Condition on Reconstruction*
- The reconstructed chain of a moved head observes the minimality effect.
- d. *The minimality effect*
- α can have an association with β only if there is no γ , γ closer to β than α , such that γ is susceptible for the same with β .

(63a) establishes the formal licensing condition for an NP when it undergoes Spell Out -- it must be the subject of a predicate. (63b) restricts the structural configurations where an NP is identified as a subject. These two conditions, in conjunction, equals the mechanism of Case checking in languages like English -- (63a) is equivalent to Case Filter in its traditional version (cf. Chomsky 1981, 1986a; footnote 23); (63b) are comparable to the configurational requirement for the checking/agreement to be carried out. (63c) is more or less specific to Mandarin Chinese, which sets a locality constraint on the identification of subjecthood. We will see that (63c) is the source for the restriction that there can only be

²³ A subject is a maximal projection XP that occurs as the specifier of another maximal projection YP. A formal subject is such an XP that does not necessarily hold a thematic relationship with Y. Loosening the definition of subjecthood has the effect to encompass raised as well as base-generated subjects as both legitimate cases, so that the raising of an internal subject to TP Spec will not violate the formal licensing conditions for phonetic realization.

²⁴ We ignore the questions related to multiple subjects.

one post-verbal element in a Mandarin Chinese sentence.²⁵ (63d) is the general notion of the minimality effect that manifests in many current works on grammatical principles, such as Huang's (1984) Generalized Control Rule, Chomsky's (1986b) Minimality Condition, Rizzi's (1990) principle of Relativized Minimality, Aoun and Li's (1993) Minimal Binding Requirement, Chomsky's (1995) Minimal Link Condition, and many others. We assume that its legitimacy as a principle here is self-evident.²⁶

²⁵ Though we say that (63c) is more or less specific to Mandarin Chinese, there is still a possibility that it holds in other languages. Consider the English verb *weigh*. On the one hand, *weigh* can take an agent subject and a theme object, as in (ia); on the other, it can take a theme subject and a measure phrase, as in (ib):

- (i) a. John weighed these apples.
- b. These apples weighed 100 lbs.

Since both the theme *these apples* and the measure *100 lbs.* can occur post-verbally, it seems reasonable to assume that the theme *these apples* originates as an internal argument of the verb *weigh*, on a par with the measure *100 lbs.*, which is an adjunct argument. Thus, the verb *weigh* assigns two internal theta-roles, to the theme and to the measure. But we observe that the two internal arguments cannot occur post-verbally at the same time:

- (ii) *John weighed these apples 100 lbs.

Since the argument status of both *these apples* and *100 lbs.* has just been shown, the ungrammaticality of (ii) shouldn't result from thematic reasons. The only possibility that remains is Case. Suppose we have the following structure, with the three arguments licensed by three different (light) verbs:

- (iii) [John V₁ [these apples V₂ [100 lbs. [weigh]]]]

(We tentatively assume that the measure phrase *100 lbs.* is the specifier of the VP projected by the main verb *weigh*.) (iii) is the purported underlying structure for the ungrammatical example in (ii). In this structure, the main verb *weigh* incorporates to the higher light verbs. Notice that this is exactly like the case of the adverbial object construction in Mandarin Chinese. For (ii) to be ruled out, some principle similar to (63c) must be evoked.

²⁶ As a matter of fact, the effect that we really need is a "reverse version" of Chomsky's (1995) Minimal Link Condition, given below:

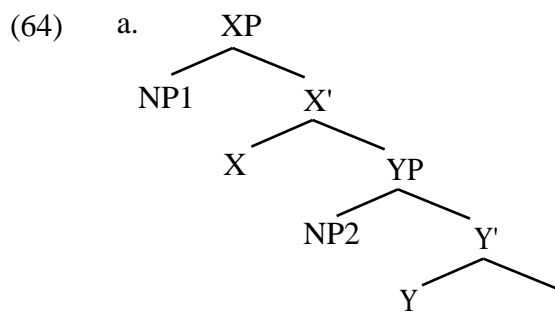
- (i) "K attracts α only if there is no β , β closer to K than α , such that K attracts β ." ((110), p.311)

Applied to the reconstruction of heads, we can support (63d) with the following precise statement, a rephrasing of (i):

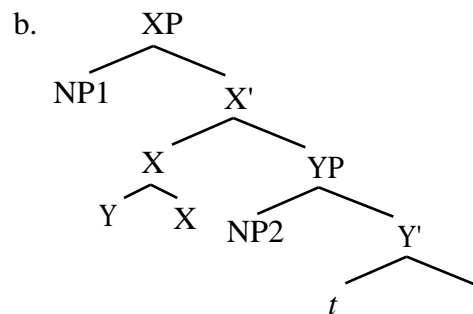
- (ii) "K reconstructs to α only if there is no β , β closer to K than α , such that K reconstructs to β ."

While (i) regulates upward attractions, (ii) undoes its effect and regulates downward reconstruction. All other details remain the same, except that, in our case, we are dealing with heads, rather than maximal projections.

We look at an illustration first for the application of (63a-d). Suppose we have the syntactic structure in (64a) below, where X is a light verb and Y is a regular verb. NP1 and NP2 are introduced by X and Y respectively. Y incorporates to X. If XP is the top of the whole light verb structure, then it constitutes a phase (Chomsky 1998), and it must be sent to Spell Out, with the hypothesis of cyclic Spell Out (Chomsky 1999). At this point, the NPs in the structure must be checked if they satisfy the formal licensing conditions. According to (63a), the condition of Formal Licensing, NP1 and NP2 must be subjects. According to (63b), the condition of Identity of Subjecthood, both NP1 and NP2 are subjects -- NP1 is the subject of X', which contains X as the lexical head; NP2 is the subject of Y', which can get a lexical head, Y, via reconstruction. The reconstructed chain, (Y, *t*) in (64b), observes the Condition on Reconstruction (63c-d), since there is no H⁰ intervening between Y and its trace *t* that Y can potentially be reconstructed to. After all this is checked, conflation and Spell Out apply, yielding the structure in (64c) in the PF component. (See Chapter 7 for detailed discussion on the process of conflation.)

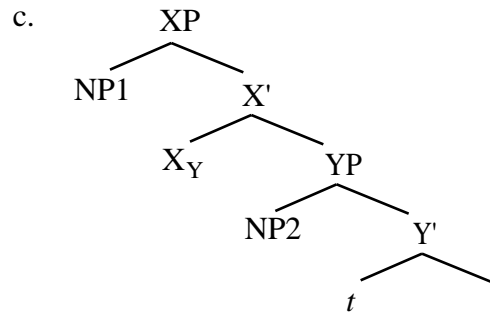


⇓ *Incorporation*

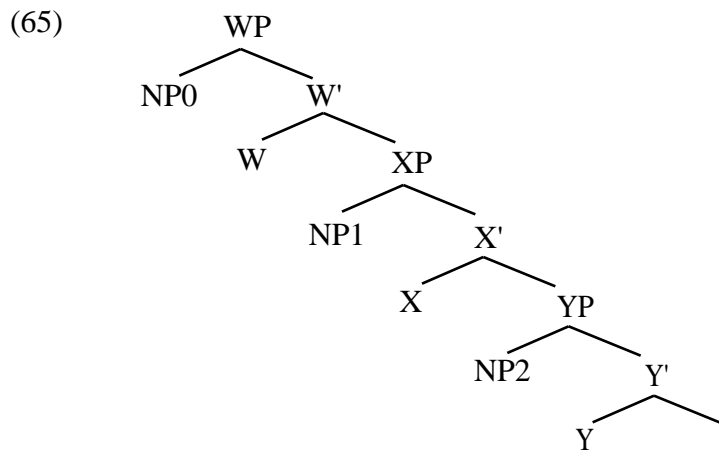


*Formal Licensing &
Identity of Subjecthood*

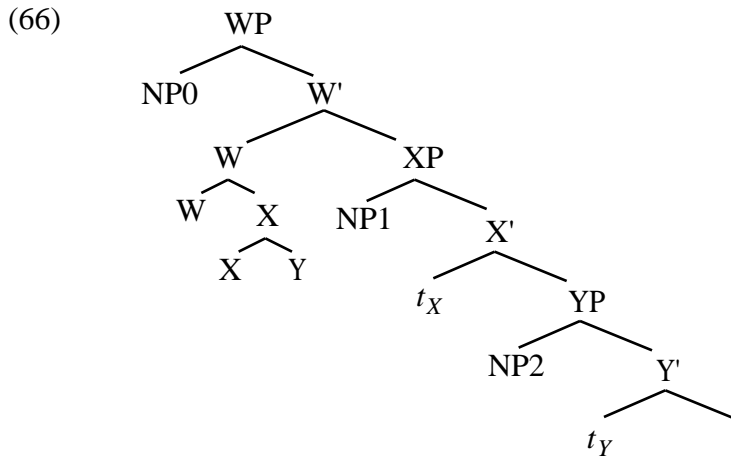
⇓ *Conflation, Spell Out*



Now, suppose XP is not the top of the light verb structure; there is one more layer of light verb, WP, merged to the structure. If the verb Y still takes a specifier, namely NP2, the structure will be as follows:



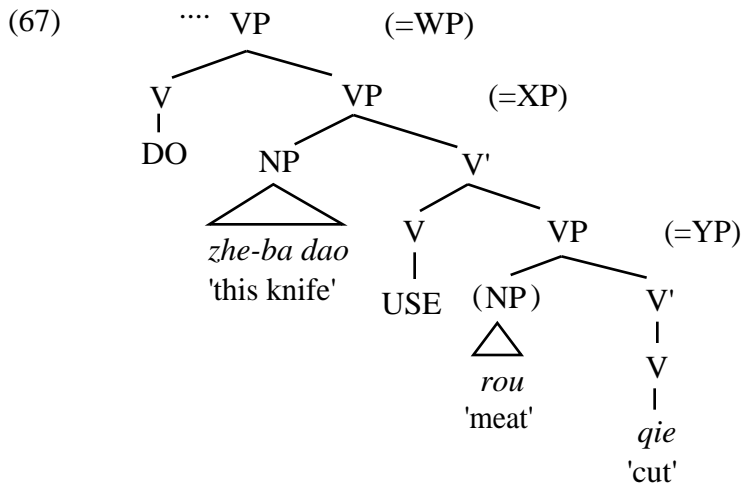
As far as the derivation reaches the point where Y incorporates to X, things remain the same as (64b). But in the present case, the resulting verbal complex has to further incorporate to W, yielding the following structure:



Now, as a phase, WP has to be spelled out and sent to PF. The NPs must be checked whether they satisfy the condition of Formal Licensing in (63a). NP0 is the subject of W', and NP1 is the subject of X'. But NP2 cannot be identified as a subject. Though it is actually the subject of Y', the lexical head of Y', namely Y, cannot be legitimately reconstructed back to its original position, since the reconstructed chain, (Y, t_Y) violates the Condition on Reconstruction (63c-d), specifically the minimality effect in (63d), as there is a potential reconstructable site, t_X , that intervenes between Y and t_Y . So NP2 induces a Syntax-PF crush, resulting in ungrammaticality.²⁷ To avoid the crush, NP2 must not occur. In that case, the only NPs in the structure will be NP0 and NP1, both being formally licensed. Thus we derive the constraint in Mandarin Chinese syntax that only one element can occur post-verbally in the adverbial object construction.

Now let's look at concrete examples. The structure that concerns us is the following:

²⁷ Naoki Fukui (p.c.) raises a question on the ungrammaticality of the structure in (66): Why can't NP2 get formally licensed via cyclic reconstruction? That is, why can't Y be reconstructed back to t_Y on the basis of the reconstruction of X back to t_X ? There are several possible answers to this question. First, we can assume that the checking of subjecthood is representational in nature; that is, there is no reconstruction that really proceeds, hence no chance for cyclic reconstruction. Secondly, we can assume that the process of reconstruction involves chain formation, like syntactic movement. Thus, for the reconstruction, two chains are formed for (66): (X, t_X) and (Y, t_Y). But the latter chain is not an optimal one, since t_X intervenes, and hence the minimality effect is violated. This is also a representational approach for eliminating the cyclic reconstruction. In conclusion, if we consider the checking of subjecthood a representational process, cyclic reconstruction will not be possible.



First of all, the light verb structure can just project to USE-VP (XP), parallel to (64a-c). If the verb *qie* 'cut' incorporates to USE and that's all we have in this structure, the whole structure is sent to PF via Spell Out. There is no problem in this process, as we have seen in (64a-c). The NPs *zhe-ba dao* 'this knife' and *rou* 'meat' are both formally licensed, being the subjects of USE-V' and V', the latter involving reconstruction of *qie* 'cut' back to its original position. Indeed the resulting structure is grammatical, as the following example show:²⁸

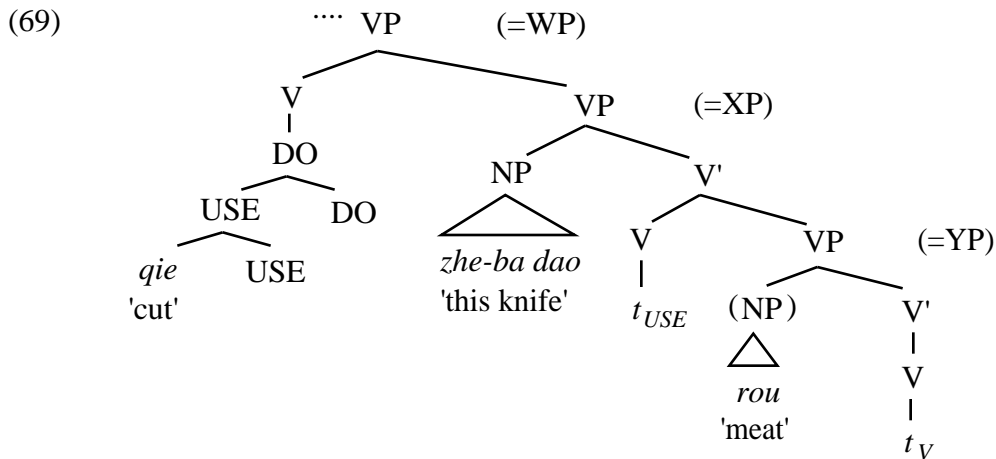
- (68) Zhe-ba dao (shi) qie rou (de).
 this-Cl knife (be) cut meat (Mod)
 '[The function of] this knife is to cut meat.'

Now, one more layer of light verb can be merged to the structure, the DO-VP. After cyclic applications of incorporation, the structure is as follows:

²⁸ The theme/patient object in (68) can be absent, as in the following example:

- (i) Zhe-ba dao (shi) qie (de).
 this-Cl knife (be) cut (Mod)
 '[The function of] this knife is cutting.'

(i) proves that our proposal on the optional presence of the theme/patient object is correct.



If the NP *rou* 'meat' is present, it will not be formally licensed, since it cannot be identified as a subject, as the reconstructed chain (*qie*, t_V) fails to observe the minimality effect (63d). The intervening head t_{USE} will block the reconstruction. The only way to save this structure from ungrammaticality is to make the theme/patient NP *rou* 'meat' absent. We mentioned earlier that the specifier of the main verb, namely the theme/patient object, doesn't have to occur. In the present case, it cannot occur, otherwise the derivation will crash, and ungrammaticality ensues. This is why the "logical" object cannot be present in the adverbial object construction with a transitive verb.

To summarize, we have proposed a mechanism in Mandarin Chinese comparable to Case-feature checking to account for the Case effect in the adverbial object construction, based on Li (1985, 1990) insight. All NPs must be a subject so as to be phonetically realized. The subjecthood of an NP, however, is constrained -- either it is a subject of a V' with a lexical head, or it is identified as a subject via reconstruction of a lexical head. Reconstructions, furthermore, observe minimality effect. All these can have a point-by-point correspondence with the current Case theory based on feature checking. For example, subject-predicate relation corresponds to Spec-Head configuration, predication to agreement or feature checking, and the minimality effect on reconstruction to the Minimal Link Condition (Chomsky 1995). There are of course differences, such as predication vs. formal

feature checking (hence Mandarin Chinese looks more "semantic" than English), reconstruction of heads vs. XP attraction, etc.. Many interesting questions arise from this proposal. Limited by space and focus, we will leave them for future research.

4. Concluding remarks

In this chapter we examined the adverbial object construction in Mandarin Chinese. It was shown that some adverbials can occur post-verbally as though they were selected objects. We argued that actually they are not selected arguments of the main verb, but licensed by light verbs USE, AT, and FOR. These light verbs take an adverbial expression as subject and the VP projected by the main verb as complement. The main verb incorporates to them, and further up to the subject-selecting light verb, yielding in the surface structure in which the adverbials occur post-verbally. We also proposed that the theme/patient object of a transitive verb in Mandarin Chinese is not a selected argument either. It is the specifier of the VP projected by the main verb. It does not have to occur. In this connection, we discussed the question why in the adverbial construction the theme/patient object cannot occur. We proposed that this is a result of the formal licensing conditions that regulate the phonetic realization of NP arguments. It is assumed that all arguments in Mandarin Chinese sentences must be identified as a subject so as to be phonetically realized. However, the identification of subjecthood is local, which results in the effect that, when an adverbial occurs as a surface object via a light verb, the theme/patient object cannot occur, since the identification of its subjecthood would require illegitimate reconstruction of the raised head, in violation of the minimality effect.

With all these discussions and arguments, it is clear that the object in a Mandarin Chinese sentence is unselective with respect to the selection domain of the main verb, exactly like the case of the subject. With the functions of the predicate-internal light verbs, a

verb in Mandarin Chinese may take various kinds of surface object, as the following paradigm shows, with the verb *chi* 'eat' as an example:

- (70) a. **chi** niu-rou mian (*Theme/patient*)
 eat beef noodle
 'eat beef noodle'
- b. **chi** da-wan (*Instrument*)
 eat big-bowl
 'use a big bowl to eat'
- c. **chi** guanzi (*Location*)
 eat restaurant
 'dine at some restaurant'
- d. **chi** xiawu (*Time*)
 eat afternoon
 'dine in the afternoon'
- e. **chi** tou-tong (*Reason*)
 eat head-ache
 'eat for [curing] headache'

At this point, it is worthwhile looking at the verb of placement *fang* 'put' again. In Chapter 3, we proposed to treat *fang* 'put' in such a way that it doesn't select any internal argument -- the locative expression in fact is a secondary predicate, and the theme is an internal subject introduced by the light verb BECOME. If *fang* 'put' really doesn't select any internal argument, then we will expect it to be capable of freely taking different kinds of object. This is indeed true. As the following examples show, *fang* 'put' can take all the adverbial objects as *chi* 'eat' does:

- (71) a. Laowang **fang**-le yi-ben shu zai zhuo-shang. (Theme)
 p.n. put-Perf one-Cl book at table-on
 'Laowang put a book on the table.'
- b. Zhaxie shu zonggong **fang**-le san-ge xiangzi. (Instrument)
 these book altogether put-Perf three-Cl box
 'It takes three boxes altogether to put these books in.'
- c. Zhaxie shu **fang** wo-jia. (Location)
 these book put my-home
 'These books [can be] kept in my house.'
- d. Zhe-wan mian **fang**-le zheng-de zaoshang. (Time)
 this-bowl noodle put-Perf whole morning
 'This bowl of noodle has be [somewhere] for the
 whole morning.'
- e. Zhaxie shu bu-shi **fang** hao-kan de. (Reason)
 these book not-be put good-look Mod
 'These books are not there for good-looking.'

Among (71a-e), only in (71a) does *fang* 'put' denote an agentive action followed by a resultant locational displacement of a theme; in (71b-e), *fang* 'put' takes an adverbial object. This array of phenomena can be well accounted for only if we assume that *fang* 'put', like other verbs in Mandarin Chinese we have seen, doesn't select internal argument. Without this assumption, it would be hard to have a reasonable treatment for (71b-e), resorting to no ad hoc devices that deletes the theme and location arguments. Thus (71b-e) provide a further support for the point we have repeatedly emphasized -- the object in a Mandarin Chinese sentence is not an argument selected by the main verb.