



## Part Two

# THE PREDICATE DOMAIN





## 7

## Analysis versus Synthesis: Objects

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## 1. Introduction

Huang (2005, 2006, Chapter 1 in this volume) has proposed insightful and influential analyses of different types of constructions in different languages with the notions of micro-parameters and macro-parameters: some languages, like Chinese,<sup>1</sup> have more micro-parameters of analytic properties; others, like English, are more synthetic in the sense that they have more micro-parameters of synthetic properties. Analyticity generally has a more transparent matching of meaning-morpheme/word correspondence relation, whereas synthesis encodes more meanings into one morpheme/word. This contrast is manifested very well in the formation of accomplishment verbs in English and the use of bi-morphemic action + result expressions for the corresponding verbs in Chinese (Tai 1984):

- (1) English Chinese  
 learn xue-hui 'study-capable'  
 break da-po 'hit-break'  
 kill sha-si 'kill-dead'

In light of this contrast, it is interesting to note that Chinese allows verbs to be immediately followed by noun phrases (NPs)<sup>2</sup> that are temporal, locative, or instrument expressions, which has sometimes been assumed to involve verbs combined with other light verbs (e.g., Lin 2001):

- (2) a. ta xihuan zuo **baitian** -temporal  
 he like do daytime  
 'He likes to work in the daytime.'  
 b. ta xihuan chi **haohua canting**. -locative  
 he like eat fancy restaurant  
 'He likes to eat at fancy restaurants.'

<sup>1</sup> This work focuses on Mandarin Chinese.

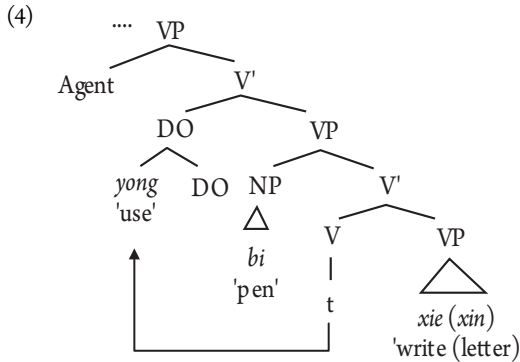
<sup>2</sup> Because the distinction between DP and NP is not relevant in this work, we use the label NP throughout the work as an abbreviation for argumental nominal expressions.

- c. ta xihuan xie **zhe-zhi maobi**. -instrument  
 he like write this-CL brush.pen  
 'He likes to write with this brush pen.'

Such postverbal NPs roughly correspond to adjunct PPs, which generally occur preverbally in Chinese:

- (3) a. ta xihuan **zai baitian** zuo (shi)  
 he like at daytime do work  
 'He likes to work in the daytime.'  
 b. ta xihuan **zai haohua canting** chi fan.  
 he like at fancy restaurant eat meal  
 'He likes to eat at fancy restaurants.'  
 c. ta xihuan **yong zhe-zhi maobi** xie (zi)  
 he like use this-CL brush.pen write word  
 'He likes to write with this brush pen.'

To accommodate such facts, Lin (2001) proposes that verbs in Chinese in the following structure can be incorporated with the light verb that licenses the relevant adjunct expression:



The postverbal NPs in (2a–c) generally correspond to PPs in English, as indicated by the translation for the sentences. This categorical difference between Chinese and English and the derivation captured in (4) are not expected if we consider the morphological analyticity just mentioned. However, Lin (2001) and Huang (2005, 2006) note that the possibility of (2a–c) is in fact an illustration of another analytic property: Chinese verbs are more bare and do not contain thematic features. Therefore, typical objects (objects subcategorized for by verbs) are not needed (see also Williams, Chapter 11 of this volume). The postverbal adjunct NP takes the place of the normally subcategorized object. Let us refer to the subcategorized objects as canonical objects and the adjunct NPs taking the place of canonical objects as non-canonical objects. As a comparison, English generally does not license non-canonical objects because this language is more synthetic in the sense that its verbs do contain thematic features.

If non-canonical objects are possible because no thematic features are specified as lexical properties of verbs one might wonder why the relevant light verbs are needed at all. Why do non-canonical objects need light verbs to license them thematically? Moreover, there are interesting constraints on what can be a non-canonical object; that is, not all preverbal adjunct PPs can have a non-canonical object counterpart:<sup>3</sup>

*Comitatives*

- (5) a. wo **gen** hao wuban tiao wu.  
I with good dance.partner dance dance  
'I dance with good dancing partners.'
- b. \*wo tiao hao wuban.  
I dance good dance.partner  
intended to mean 'I dance with good dancing partners.'

*Benefactives*

- (6) a. wo **wei** luke kan xingli  
I for travelers watch luggage  
I watch luggage for travelers.'
- b. \*wo kan luke.  
I watch traveler  
intended to mean 'I watch (luggage) for travelers.'

What is even more interesting and striking is that a similar contrast in the availability of a non-canonical object roughly corresponding to an adjunct PP is found in noun incorporation (NI) languages, such as Northern Iroquoian languages.

This work argues that non-canonical objects do not behave like adjunct PPs. Instead, they are more like canonical objects syntactically, although the two are not identical in every aspect. The (un)availability of non-canonical objects depends on the role of Ps, applicatives, or case markings. We will refer to these functional categories such as Ps, applicatives, case, and agreement markings as functors. An argument not licensed by a functor can be the syntactic object of a verb, interpreted according to institutionalized conventions (grammaticalized world knowledge).

<sup>3</sup> The judgment with sources is not as clear. For instance, the following sentence is generally not acceptable to the consultant that we worked with:

*Source*

- (i) a. wo **xiang tushuguan** jie shu.  
I from library borrow book  
'I borrow books from libraries.'
- b. \*wo jie tushuguan.  
I borrow library  
intended to mean 'I borrow (books) from libraries.'

However, if the object is a specific bank name, the acceptability improves for some speakers:

- (ii) wo jie Meiguo Yinhang.  
I borrow America bank  
'I borrowed from Bank of America.'

The presence/absence of case morphology will be a focus of our discussion, and will be shown to be a property of particular constructions, rather than specific languages. Therefore, we will find the counterpart of Chinese non-canonical objects in English compounding (N-V-*er/ing*) and noun incorporation structures in Northern Iroquoian languages. This will lead us to conclude that “analysis versus synthesis” should consider specific constructions, rather than types of languages. It would be important to examine micro-variations (micro-parameters) and take “macro-parameter” as an aggregation of correlating variations (see Huang, Chapter 1 of this volume).

## 2. Non-Canonical Objects in Chinese

The notion of objects of verbs seems to be intuitively clear. Native speakers seem to know when and where there is an object. When one hears sentences such as those in (7a, b), the understanding is that probably something is missing. The interpretation should include something about what was done by him or liked by him—objects of verbs. In contrast, the sentences in (8a, b) do not seem to be missing an object.

- (7) a. ta zuo le.  
he do LE<sup>4</sup>  
‘He did (something).’

- b. ta xihuan.  
he like  
‘He likes (something).’

vs.

- (8) a. ta shui le.  
he sleep LE  
‘He slept.’
- b. ta xiangdang yingjun.  
he quite handsome  
‘He is quite handsome.’

What is interesting in Chinese, as noted in many linguistics works, is that the division in Chinese between transitive and intransitive verbs is not very clear, and argument structure in Chinese is not easy to define (see Chen 2004; Cheng 2009; Guo 1999; Hu 2007, 2008, 2010; Lin 2001; Shen 2006; Teng 1975; Xiong 2009; Xu and Shen 1998; Yang 2007a, 2007b; Yuan 1998, 2003, 2004; Zhan 1999, 2004; Zhou 1997; among many others). For instance, even though *shui* ‘sleep’ in (8a) is generally considered intransitive, it allows a noun phrase immediately following it:

- (9) a. ta shui da chuang.  
he sleep big bed  
‘He sleeps on the big bed.’

<sup>4</sup> *Le* in Chinese can occur either as a sentence-final particle indicating change of state or can be suffixed to a verb as a perfective aspect marker. When *le* follows a non-stative verb at the end of a sentence, its function is less clear. It could be the combination of both *le*’s or one of them. We leave the distinctions aside and simply gloss all the occurrences of *le* as LE.

- b. ta zhi shui baitian.  
 he only sleep day.time  
 'He only sleeps in the daytime.'

Moreover, as noted in the works cited earlier and others, the types of nominal phrases (NPs) in the object position in Chinese raise interesting questions, as the position seems to allow a variety of NPs in place of canonical objects, in contrast to the relative rigidity of complement selection in English.<sup>5</sup> The examples in (2a–c) illustrate the possibility of a temporal, locative, and instrument NP in place of canonical objects, and these NPs roughly correspond to preverbal PPs modifying the verb phrase (preverbal adjunct PPs), as in (3a–c). The question is what the postverbal nominal phrases in (2a–c) are. Are they objects or not? In what sense are they or are they not objects?<sup>6</sup>

<sup>5</sup> English allows a certain degree of flexibility with certain verbs, such as the following examples: *He likes to fly a Boeing. He works evenings and weekends.* However, they are much more restricted than in Chinese.

<sup>6</sup> Lin (2001) claims that a non-canonical object can also be a reason expression, expressed by the light verb FOR. Examples are like (i–ii):

- (i) ta shi chi haowan de.  
 he be eat fun DE  
 'He was eating for fun.'
- (ii) tamen ku guo-po-jia-wang  
 they cry country-break-home-perish  
 'They cried for the disintegration of country and the perish of home.'

According to Lin, (i–ii) correspond to (iii–iv) with a preverbal *wei* 'for'-phrase:

- (iii) ta wei haowan chi.  
 he for fun eat  
 'He was eating for fun.'
- (iv) tamen wei guo-po-jia-wang ku  
 they for country-break-home-perish cry  
 'They cried for the disintegration of country and the perish of home.'

However, (i) and (ii) are not quite the same. The former generally has a predicate following the verb (*haowan* 'good to play') and occurs in the (*shi*) . . . *de* 'copula . . . sentence-final-particle' construction. The latter has the typical V-Object form and does not have to occur in the (*shi*) . . . *de* pattern:

- (v) a. tamen zai ku shenme? cf. b. ta chi shenme?  
 they at cry what he eat what  
 'What are they crying at?' 'What does he eat?' (no reason reading)

We will take (v.a) (and therefore (ii)) as a regular transitive verb construction, like (vi.a) in English:

- (vi) a. He mourned the loss.  
 cf. b. He cried at the loss.

Similarly *xiao* 'laugh' can be the equivalent of the English *laugh at/ridicule*, as in *ta xiao wo* 'he ridiculed me.' That is, *ku/xiao*, etc., in such constructions can simply be transitive verbs. The objects following such verbs are typical objects.

The construction in (i) can be analyzed as a structure containing a stative predicate (the predicate following the verb), which accommodates the fact that it occurs in the (*shi*) . . . *de* pattern.

### 3. Non-Canonical Objects

Syntactically, a postverbal non-canonical object NP behaves very much like a canonical object,<sup>7</sup> because it has the same properties as a canonical object such as the ones in the following examples (see Li 2011):

- (10) a. Non-canonical objects, like canonical objects, can be any type of nominal expression, definite, indefinite, or quantificational.  
 b. A non-canonical object is an NP. It is not an Adv or PP (the P of the corresponding preverbal adjunct PP does not appear postverbally).  
 c. It is in complementary distribution with a canonical object.  
 d. It can occur with a postverbal duration/frequency phrase, taking the same position as a canonical object relative to these other postverbal phrases. V-reduplication is possible in these cases, just like canonical objects. This is also true when the V is directly followed by a *de* phrase of description or result.  
 e. It can have narrow scope with respect to the duration/frequency phrase, like a canonical object.  
 f. It allows object deletion, just like canonical objects.<sup>8</sup>  
 g. Like a canonical object, a non-canonical object can also combine with V to take an affected outer object.

Note that for some speakers (especially northern Chinese), the verb preceding the stative predicate needs to be followed by the durative aspect marker *zhe*,

- (vii) ta shi chi-zhe haowan de.  
 he be eat-ing fun DE  
 'He was eating for fun.'

This is not a V-Object construction and will not be included in the constructions illustrating non-canonical objects.

<sup>7</sup> Zhang (2005) observes that a non-canonical object differs from the corresponding adjunct semantically in that a verb generally should have an effect on a non-canonical object. Unfortunately, it is not easy to define what it means for a verb to have an effect on a non-canonical object, making this intuition difficult to state clearly. For instance, it is not clear what this would mean for a sentence like *wo xihuan shui baitian* 'I like to sleep (in the) daytime.'

<sup>8</sup> However, not all non-canonical objects can be deleted equally. The more established, institutionalized, or commonly used the form [V + non-canonical object] is, the easier it is to have the object missing. It could be that object deletion is more closely related to lexical subcategorization (Li 2005). This qualification applies to (h) as well.

Moreover, the use of the experiential aspect marker *guo* tends to make the deletion of non-canonical objects better. For instance, (ii) is not as good as (i); but (iii) is quite acceptable:

- (i) ta kan na-bu dianying, wo ye kan.  
 he watch that-CL movie I also watch  
 'He watched that movie; I also watched (that movie).'
- (ii) ??ta kan zaoshang, wo ye kan.  
 he watch morning I also watch  
 'He watched (something) in mornings; I also watched.'
- (iii) ta kan-guo zaoshang, wo ye kan-guo.  
 he watch-ASP morning I also watch-ASP  
 'He has watched (something) in mornings; I have also watched.'



- h. Like a canonical object, a non-canonical object can occur in the construction [ . . . de Ø], (a structure distinguishing arguments and adjuncts (see, among many others, Zhu 1961). That is, if an argument undergoes relativization, the relativized argument can be deleted. In contrast, a relativized adjunct cannot be deleted (see Aoun and Li 2003, chapter 5, for detailed discussion on this argument/adjunct asymmetry).
- i. As with arguments (objects), long-distance topicalization or relativization of such a non-canonical object is possible.

Property (10a) is illustrated with the following examples:

- (11) a. yao hua ji-zhang zhi ne? -quantificational  
need draw how.many-CL paper Q  
'How many pieces of paper to draw on?'
- b. buyao hua na-mian qiang. -definite  
don't draw that-CL wall  
'Don't draw on that wall.'
- c. jiao bang-tiao hong shengzi. -indefinite  
foot tie-CL red string  
'The foot was tied with a red string.'

The impossibility of an adverb or the P of the corresponding preverbal PP in (10b) is demonstrated in the following examples:

- (12) a. ta changchang chi mian ---Adv-V  
he often eat noodle  
'He eats noodle often.'
- b. \*ta chi changchang ---\*V-Adv  
he eat often
- (13) a. ta cong qi dian dao jiu dian chi zaofan. ---PP-V  
he from 7 o'clock to 9 o'clock eat breakfast  
'He eats breakfast from 7 to 9 o'clock.'
- b. ta chi (\*cong) qi dian dao jiu dian ---\*V-PP  
he eat from 7 o'clock to 9 o'clock

A non-canonical object and a canonical object are in complementary distribution—property (10c):

- (14) \*wo chi wancan fandian/fandian wancan —complementary distribution  
I eat dinner restaurant/restaurant dinner

Just as a canonical object is able to occur with a frequency/duration phrase, so can a non-canonical object (a definite one tends to precede the duration/frequency phrase and a bare nominal object follows the duration/frequency), as stated in (10d):

- (15) a. wo shang xingqi chi-le san-ci/tian mian/fandian. -fre/dur + bare object  
I last week eat-LE three-times/day noodle/restaurant  
'I ate noodles/at restaurants three times/days last week.'
- b. wo shang xingqi chi-le na-zhong mian/na-jia fandian  
I last week eat-LE that-CL noodle/that-CL restaurant  
san-ci/tian. - def obj + fre/dur  
three-times/day  
'I ate that noodle/at that restaurant three times/days last week.'

V-reduplication is possible with non-canonical objects and other postverbal phrases such as duration/frequency and *de* expressions, just like the cases involving canonical objects:

- (16) wo **chi** mian/haohua fandian **chi-le** henduo ci/tian —V-reduplication with *fre/dur*  
 I eat noodle/fancy restaurant eat-LE many time/day  
 'I ate noodle/at fancy restaurants many times/days.'
- (17) wo **chi** mian/haohua fandian **chi-de** hen  
 I eat noodle/fancy restaurant eat-DE very  
 gaoxing/lei —V-reduplication with *de-phrases*<sup>9</sup>  
 happy/tired  
 'I am happy/tired from eating noodle/at fancy restaurants.'

In the same way that a canonical object can have narrow scope with respect to a duration/frequency phrase, a non-canonical object can also take narrow scope, as noted in (10e):

- (18) a. ta chi-guo liangci niurou huo/he zhurou —canonical object narrow scope  
 he eat-ASP twice beef or/and pork  
 'He ate twice beef or/and pork.'
- b. ta chi-guo liangci zhong canting huo/he  
 he eat-ASP twice Chinese restaurant or/and  
 xi canting. —non-canonical obj. narrow scope  
 western restaurant  
 'He ate twice in Chinese or/and Western restaurants.'

Some non-canonical objects can also undergo object deletion, like canonical objects (10f) (see note 8):

- (19) ta chang chi mian/haohua canting; wo bu chang chi \_\_\_\_ —object deletion  
 he often eat noodle/fancy restaurant I not often eat  
 'He often eats noodle/at fancy restaurants; I don't often eat (noodle/at fancy restaurants)'

In addition, as noted in (10g), a non-canonical object can behave like a canonical object and combine with a verb to take an "affected" object (inner and outer object; cf. among many others, Thompson 1973; Lu 2002; Zhan 1999; Huang 2007). For instance, the canonical inner object in (20a, b) can be replaced with a non-canonical object (the examples in (20) are adapted from Lu 2002):

- (20) a. wo chi-le ta san-ge pingguo.  
 I eat-LE him three-CL apple  
 'I ate him three apples = he was affected by my eating (his) three apples.'
- b. wo jian-le ta shi-gongchi bu.  
 I cut-LE him ten-meter cloth  
 'I cut ten meters of cloth from him.'
- (21) a. wo (cai) chi-le ta san-tian Fanguan (ta jiu yijing shou-bu-liao le)  
 I only eat-LE him three-day restaurant he then already put-not-up LE  
 'I (only) ate at restaurants for three days on him (and he already could not take it).'

<sup>9</sup> In Chinese, what occurs postverbally is limited. In addition to objects, a verb can be followed by the grammatical marker *de* and an adjectival phrase or clause expressing the manner, extent, or result of an action/event.

- b. wo (cai) jian-le ta san-ba jiandao (ta jiu yijing bu gaoxing le)  
 I only cut-LE him three-CL scissors he then already not happy LE  
 'I (only) cut with three pairs of scissors on him (and he already was not happy).'

The following are some more examples illustrating the ability of a non-canonical object combining with a V to license an affected object:<sup>10</sup>

- (22) a. wo xie-le ta yigong san-zhi maobi  
 I write-LE him altogether three-CL brush.pen  
 'I wrote with three brush pens (of his) altogether.'
- b. wo jiu qie-le ta san-ba daozi  
 I only cut-CL him three-CL knife  
 'I only cut with three knives (of his).'
- c. wo xie-le ta san da-zhang zhi.  
 I write-LE him three big-CL paper  
 'I wrote on three big pieces of paper on him.'

The examples above show that canonical objects syntactically behave like non-canonical objects.

Regarding (10h), there is a substantial number of cases showing that non-canonical objects are like arguments, according to the test using the relativization construction without an overt noun phrase following *de*. Briefly, if an argument undergoes relativization to appear in the position following *de* [ [<sub>rel. cl.</sub> ... t<sub>i</sub>... ] *de* [ NP<sub>i</sub> ] ], the relativized NP can be deleted. However, relativization of an adjunct does not allow the noun phrase following *de* to be empty (see Aoun and Li 2003, chapters 5–6 for details).<sup>11</sup>

- (23) a. [ta chi de] dou shi hao dongxi. --- *argument relativization*  
 he eat DE all be good thing  
 'All he eats are good things.'
- b. \*[ta chi fan de] (dou) shi hao liyou. --- *adjunct relativization*  
 he eat meal DE all be good reason  
 intended to mean 'The reasons why he eats meals are good reasons.'

A non-canonical object can undergo relativization and be deleted, just like an argument:

- (24) a. ta chi de (cating) dou shi haohua cating.  
 he eat DE (restaurant) all be fancy restaurant  
 '(The restaurants where) he ate were fancy restaurants.'
- b. zhe-shuang kuaizi jiu shi ta chi de (kuaizi).  
 this-CL chopsticks exactly be he eat DE chopsticks  
 'This pair of chopsticks was (the chopsticks) he ate with.'

<sup>10</sup> It is difficult to find examples with time expressions as non-canonical objects in such constructions because generally the inner and outer object bear some relation, such as a possession or affectedness relation (see Huang 2007 for examples not bearing a possession relation, even though an "affected" relation still holds).

<sup>11</sup> The *de* in this construction is a modification marker within a noun phrase, different from the *de* mentioned in note (8).

- c. zhe-ba dao jiu shi ta qie de (dao).  
this-CL knife exactly be he cut de knife  
'This knife was exactly (the knife) he cut with.'
- d. ta xie de (zhi) jiu shi zhe-zhong zhi.  
he write DE paper exactly be this-kind paper  
'(The paper) he wrote on was exactly this kind of paper.'
- e. ta kan de (shijian) shi wanshang, bu shi zaoshang.  
he see DE time be evening not be morning  
'(The time when) he saw (something) was in the evening, not in the morning.'

Finally, long-distance relativization or topicalization of a non-canonical object is illustrated in the following:

Long-distance topicalization of a non-canonical object:

- (25) a. zhe-zhi bi, wo zhidao dou hai meiyou ren xie-guo.  
this-CL pen I know all yet not.have person write-ASP  
'This pen, I know that nobody has ever written (with) \_\_\_\_ yet.'
- b. na-jia gongsi, wo zhidao ta zuo-guo.  
that-CL company I know he work-ASP  
'That company, I know that he has worked (at) \_\_\_\_.'
- c. qi-dian dao jiu-dian, wo zhidao meiyou ren yuanyi zuo.  
7-o'clock to 9-o'clock I know not.have person willing do  
'7 to 9 o'clock, I know that nobody would be willing to work (at) \_\_\_\_.'

Long-distance relativization of a non-canonical object:

- (26) a. wo zhidao dou hai meiyou ren xie-guo de zhe-zhi bi  
I know all yet not.have person write-ASP DE this-CL pen  
'the pen that I know that nobody has ever written (with) \_\_\_\_ yet'
- b. wo zhidao ta zuo-guo de na-jia gongsi  
I know he work-ASP DE that-CL company  
'the company that I know that he has ever worked (at) \_\_\_\_'
- c. wo zhidao meiyou ren yuanyi zuo de na-duan shijian  
I know not.have person willing do DE that-period time  
'the period of time when I know that nobody would be willing to work (at) \_\_\_\_.'

In short, the examples in (12)–(26), illustrating the points in (10a–i), identify the similarities between non-canonical objects and canonical objects.<sup>12</sup> Their identical behavior and their complementary distribution suggest that the two types of objects should occupy the same syntactic position.

## 4. PPs Without Corresponding Non-Canonical Objects

The examples above show that the “adjunct-like” temporal, locative, and instrument phrases can occupy the postverbal object position. They roughly correspond to

<sup>12</sup> Due to limited space, not every point is illustrated with examples comparing the behavior of canonical with non-canonical objects.

preverbal PPs. However, not all types of preverbal PPs behave alike. Some do not have the possibility of a corresponding postverbal non-canonical NP, such as benefactives, comitatives, goals(recipients) in non-subcategorized cases. The cases with benefactives and comitatives are illustrated in (5)–(6).<sup>13</sup> Goals are more complicated. They can occur in the bare NP form postverbally with a few verbs that are subcategorized for double objects, such as *song* ‘give’ (see, for instance, Tang 1978 for the different types of double object constructions in Chinese).

- (27) a. *wo song zhe-ben shu gei shu-shang.*  
I give this-CL book to book-merchant  
‘I gave this book to book merchants.’
- b. *wo song (gei) shu-shang zhe-ben shu.*  
I give to book-merchant this-CL book  
‘I gave book merchants this book.’
- c. *zhe-ben shu song (gei) shu-shang.*  
this-CL book give to book-merchant  
‘This book was given to book merchants.’

Verbs that can be directional in interpretation, such as *qu* ‘go’, *fei* ‘fly’, *diao* ‘drop’, can also be followed by a locative noun phrase and can be interpreted as the destination of the event:<sup>14</sup>

- (28) a. *ta qu shudian.*  
he go book.store  
‘He goes to the bookstore.’
- b. *ta fei Shanghai.*<sup>15</sup>  
he fly Shanghai  
‘He flies to Shanghai.’
- c. *shu diao di-shang le.*  
book drop ground-top LE  
‘The book fell on the ground.’

<sup>13</sup> Even when the canonical object is present, made possible by an additional copy of the verb, a benefactive still cannot occur as a non-canonical object (cf. Pytkänen 2008 on the need of an object to license a low applicative):

- (i) \**zhu jiaren zhu fan* or \**zhu fan zhu jiaren*  
cook family cook meal cook meal cook family

<sup>14</sup> Chia-fen Wu (personal communication) raised the question of whether the postverbal locative phrases in these cases were non-canonical objects. It is possible to take these as non-canonical objects because the relevant verbs ‘go/fly/fall’ can occur without any complements, just like their counterparts in English, which requires prepositions to occur with the locative noun phrases. Nonetheless, distinguishing between canonical objects and non-canonical objects might not be significant grammatically—both are the noun phrases that can take the object position.

<sup>15</sup> *Fei* ‘fly’ need not be directional, illustrated by the following sentence:

- (i) *taikongsuo fei wai taikong*  
space.shuttle fly outer space  
‘Space shuttles fly in the outer space.’

For the verbs not subcategorized for double objects, such as *ji* ‘mail,’ *da* as in *da-dianhua* ‘make-phone call,’ the goal marker *gei* ‘give, to’ is required and [V-goal NP] is not possible:

- (29) a. *wo ji zhe-ben shu \*(gei) shu-shang.*  
I mail this-CL book to book-merchant  
‘I mailed this book to book merchants.’
- b. *wo/zhe-ben shu ji \*(gei) shu-shang.*  
I/this-CL book to book-merchant  
‘I mailed (something) to book merchants/This book was mailed to book merchants.’
- (30) a. *wo da dianhua \*(gei) kehu.*  
I make call to client  
‘I made phone calls to clients.’
- b. *zhe-ge dianhua da \*(gei) kehu.*  
this-CL call make to client  
‘This call was made to clients.’

In addition, it seems that recipient-goals and destination-goals should be distinguished. Compare (27)–(29) with (31):

- (31) a. *wo ji zhe-ben shu dao Luoshanji.*  
I mail this-CL book to LosAngeles  
‘I am mailing this book to Los Angeles.’
- b. *zhe-ben shu ji Luoshanji.*  
this-CL book mail LosAngeles  
‘This is to mail to Los Angeles.’

The examples in this section show that, in contrast to those in the previous section, some PPs do not have corresponding non-canonical objects.

## 5. “Institutionalized” Non-Canonical Objects

The interpretation of a non-canonical object, that is, its relation with the related verb, is generally “conventionalized” or “institutionalized.” This is not different from how canonical objects are interpreted. After all, the relation between a verb and its subcategorized object probably is the most established and conventionalized. In contrast, the PPs corresponding to non-canonical objects are interpreted according to the Ps. The relation with the related verb is not subject to the notion of “conventionalized/institutionalized.” The difference in interpreting non-canonical objects and adjunct PPs can be illustrated by the contrast in the pairs of examples below.

- (32) a. *wo (cong) qi dian dao jiu dian kan haizi.* -the time of the event  
I from 7 o’ clock to 9 o’ clock care children  
‘I care(d) for children from 7 to 9 o’clock.’
- b. *wo kan qi dian dao jiu dian.* -the 7-9 shift/work  
I care 7 o’ clock to 9 o’ clock  
‘I care(d) from 7 to 9 o’clock.’

The sentence in (33a) below with a non-canonical object denotes a guard's duties. In contrast, (33b) with a preverbal adjunct simply describes the time/location of the activities.

- (33) a. ta zhan zaoshang/waimian.  
           he stand morning/outside  
           'He stands (guard) in the mornings/outside.'
- b. ta zai zaoshang/waimian zhan (gang).  
           he at morning/outside stand (guard)  
           'He is standing (guard) in the morning/outside.'

The non-canonical object (34a) below denotes restaurant food (which can be take-outs and eaten at places other than restaurants), in contrast to the adjunct PP expressing the place of eating.

- (34) a. ta chi canting  
           he eat restaurant -meals are restaurant food (see Zhang 2005)
- b. ta zai canting chi  
           he at restaurant eat -the place of eating is at restaurants  
           'He ate at restaurants.'

Sun and Li (2010, 22) note that the non-canonical object construction generally expresses types, categories (*leibie*). The type reading is also clear in (35a), which expresses the type of flights, 'evening flights,' in contrast to morning flights, for instance.<sup>16</sup> The adjunct PP in (35b) simply expresses the time of flying.

- (35) a. wo fei wanshang.  
           I fly evening  
           'I fly evenings = fly evening flights.'
- b. wo zai wanshang fei.  
           I at evening fly  
           'I fly/am flying in the evening.'

In addition, if the relation between the verb and a potential non-canonical object is not conventionalized or institutionalized, then the use of such a non-canonical object is much less acceptable (see Lin 2001 on conventionalized meanings). For instance, (36b) is much less acceptable than (36a) because eating with chopsticks is much more established than eating with a fork in the Chinese culture.

<sup>16</sup> The translation should not suggest that the non-canonical object is the XP in a noun phrase [XP *de* YP], with XP modifying the noun phrase YP and [*de* YP] being deleted:

- (i) wo zuo [wanshang ~~de gongzuo~~]  
       I do evening DE work  
       'I do evening work.'

Were (i) a possible derivation, it would not be expected why such a temporal phrase cannot occur in other positions and be interpreted as [XP *de* YP] with [*de*YP] deleted.

- (ii) wo ba [wanshang ~~de gongzuo~~] zuo le.  
       I BA evening DE work do LE  
       'I did evening work.'

- (36) a. ni jiu chi zhe-shuang kuaizi ba!  
 you then eat this-pair chopsticks Particle  
 'You eat with this pair of chopsticks!'
- b. ni jiu chi zhe-ba chazi ba!  
 you then eat this-CL fork Particle  
 'You eat with this fork!'

The discussions so far demonstrate that some adjunct-looking expressions (temporal, locative, and instrument) can take the object position, with requirements on their meanings being conventionalized or institutionalized. However, there are some others that systematically lack the possibility of being a non-canonical object—benefactives, comitatives, recipient-goals.

## 6. Noun-Incorporation

Very interestingly and even strikingly, a similar contrast in the availability of a non-canonical NP roughly corresponding to an adjunct PP discussed in the previous sections is found in noun incorporation (NI) languages, and NI exhibits a very similar range of (im)possibilities as non-canonical objects.

NI is attested in numerous languages around the world (Mithun 1984; Massam 2009; Gerdts 1998). In many languages with NI, the incorporated variant exists alongside an analytic variant.<sup>17</sup> The nominal root *nakt* ('bed') has been incorporated into the verbal complex in (37b).

- (37) a. Wa'-k-hnínu-' ne ka-nákt-a'. [Mohawk, Iroquoian]  
 FACT-1.SG-buy-PUNC NE 3.SG.NT.AG-bed-NFS  
 'I bought a/the bed.'
- b. Wa'-ke-nákt-a-hnínu-'.  
 FACT-1.SG-bed-JOIN-buy-PUNC  
 'I bought a/the bed.' (Baker 1996: 279)

NI has been shown to exhibit several properties cross-linguistically. First, NI constructions typically have non-compositional, idiomatic, or institutionalized meanings (Mithun 1984, Dayal 2011). Note the idiosyncratic and institutionalized readings in the following Onondaga examples (Woodbury 2003).

- (38) a. wa' gɔya' dahdɔ' da'  
 wa' kɔ- ya't- ahtɔ- 't- a'  
 FACT- I:you- body- disappear- CAUS- PUNC  
 'I lost you (e.g., in a crowd).'

<sup>17</sup> Glosses from Iroquoian examples have been altered to be uniform with the rest of the text here. Glosses from examples from other languages are retained in their original forms. The following non-obvious abbreviations are used. AG = agent (S in Baker); CIS = cislocative; FACT = factual; JOIN = joiner vowel (an epenthetic vowel in NI constructions in Iroquoian languages); LV = light verb; NE = ne' (a nominal particle); NFS = noun forming suffix; NT = neuter (N in Baker); PAT = patient (O in Baker); PUNC = punctual.



- b. *hathwisdanq̄hna?*  
 ha- at- hwist- a- nq̄hn -a?  
 3.SG.M.AG- SRFL- money- JOIN- guard -STAT  
 'He is a treasurer.'

Second, NI constructions are typically found to be not fully productive (cf. *at school* or *at church* but not \**at airport*; see Stvan 2009. See Mithun 1984 for a discussion on the range of productivity of NI in Northern Iroquoian and other languages). A further significant property, relating to the occurrence of NI with elements other than themes, is discussed less frequently. However, it is pervasively noted in the literature. NI in many languages is typically illustrated with a canonical direct object—a theme—as the incorporated noun (IN), but NI is not restricted to direct objects. Instruments, paths, and locatives also often productively incorporate (Mithun 1984, 2004; Spencer 1995; Muro 2009). We illustrate this with Onondaga (Woodbury 2003: 282, 928, respectively), (39); Chukchi (Spencer, ex (58a)), (40); and Southern Nahuatl (Merlan 1976), (41).<sup>18</sup>

- (39) a. *honathahidákhe?*  
 hon- at- hah- itakhe -?  
 3.PL.M.NOM-SREFL-path-run -PUNC  
 'They are walking on a path.'
- b. *wa'hage?nhyayé hda?*  
 wa?- hak- ?nhy- a- yé?-ha?  
 FACT-3.SG.M.AG:1.SG.PAT-stick- JOIN-hit -PUNC  
 'He hit me with a stick.'
- (40) *gətg=əlqət-gʔe walwəŋən*  
 lake=go-3.SG. sraven.ABS.SG  
 'Raven went to the lake.'
- (41) *ya? kikočillotete?ki panci*  
 3.SG 3.SG-it-knife-cut bread  
 'He cut the bread with the knife.'

Note, however, that comitatives, benefactives, and recipient-goals cannot undergo NI in virtually any language. We illustrate this with Mohawk (Baker 1996: 207), (42), which is ungrammatical on the intended reading, but possible with the nonsensical reading in square brackets. Observe also the data from Onondaga (Gloria Williams, Nora Carrier, speakers), and Cayuga (Barb Garlow, speaker).

- (42) \**t- a'- ke- wir- u- ' ne athvno*  
 CIS- FACT- 1sS- baby- give- PUNC NE ball  
 ('I gave the ball to the baby.') [ok as, 'I gave the baby to the ball.']
- (43) a. *əkhewihsa:tha:s* ne<sup>?</sup>Meri  
 ẽ-khe-wihsa:th-aR-s-Ø ne<sup>?</sup>Mary  
 FUT-1SG:3FEM.INDEF-butter-apply-BEN-PUNC ne Mary  
 'I will butter it for Mary.'

<sup>18</sup> We have found very few examples of the incorporation of true temporals in Northern Iroquoian. We attribute this gap to the fact that many of the nouns relating to time in Northern Iroquoian are not of the right shape morphologically to be incorporated.

- b. wa<sup>?</sup>hetcihsa<sup>?</sup>hgwa<sup>?</sup>  
 wa<sup>?</sup> he- atci- hsR- a- k<sup>?</sup>hkw -a<sup>?</sup>  
 FACT- 1SG:3M.SG- friend- NZRL- JOIN- hit- -PUNC  
 'I hit my friend.'
- c. \*ɛkhetcihsa:sne<sup>?</sup>owihsa<sup>?</sup>  
 ɛ-khe-atci-hsR-aR-s-Ø ne<sup>?</sup>o-wihs-a<sup>?</sup>  
 FUT-1SG:3FEM.INDEF-friend-NZLR-apply-BEN-PUNC NE butter  
 'I will butter it for my friend.'
- d. \*ɛkhetcihsa:kne<sup>?</sup>owihsa<sup>?</sup>  
 ɛ-khe-atci-hsR-aR-k ne<sup>?</sup>o-wihs-a<sup>?</sup>  
 FUT-1SG:3FEM.INDEF-friend-NZLR-apply-PUNC NE butter  
 'I will butter it for my friend.'
- (44) a. John tóhháhe: <sup>?</sup>Ganáthae:<sup>?</sup>  
 John toh he-a<sup>?</sup>ha-e:<sup>?</sup> Ganáthae:<sup>?</sup>  
 John there TRANSLOC-FACT-3.SG.M.AG-go-PUNC Brantford  
 'John went to Brantford.'
- b. John ne<sup>?</sup>hni<sup>?</sup>honatsih Ganáthae: <sup>?</sup>tóhha<sup>?</sup>héne<sup>?</sup>  
 John ne<sup>?</sup>hni<sup>?</sup>honatsih Ganáthae:<sup>?</sup> toh he-a<sup>?</sup>héne<sup>?</sup>  
 John NE and his.friend Brantford there TRANSLOC-FACT-3.PL.M.AG-go-punc  
 'John went to Brantford with his friend.'
- c. \*John tóh hatsihɛ: <sup>?</sup>Ganáthae:<sup>?</sup>  
 John toh ha-tsi-hɛ:<sup>?</sup> Ganáthae:<sup>?</sup>  
 John there 3.SG.M.AG-friend-go-PUNC Brantford  
 ('John went to Brantford with a friend.')

Combining the observations regarding the NI and non-canonical object constructions, we can reach the following generalization:

(45) *Object Usurper Generalization*

Locatives (including paths, destinations), instruments, and temporals can behave as direct objects syntactically. Benefactives, recipients, and comitatives cannot.

How can such a generalization be understood and accounted for? We approach this issue in section 7.

## 7. Toward an Account

We begin this discussion with the following questions.

- (46) a. Why is it that some adjuncts seem to be able to take the object position (function as object usurpers) but others cannot?
- b. What is common to NI in Northern Iroquoian languages and non-canonical objects in Chinese such that they show the same behavior with respect to (a)?

We propose that what is common to these constructions is the availability of an argument position not occupied by canonical objects and the object usurper's ability

to take advantage of this opportunity because they do not have to be licensed by Ps (or other functors such as applicatives) thematically.

### 7.1. AVAILABLE ARGUMENT POSITION

In Northern Iroquoian it is generally possible to incorporate a noun to a verb. The verb can be intransitive and therefore does not have a canonical object. The verb can also be transitive and the canonical object occurs in a non-incorporated, verb-external object position. In either of these two cases, there is no object incorporated to the verb and another noun can take advantage of the vacancy and be incorporated. Consider the following examples.

- (47) a. *honathahidákhe?*  
           hon-           at-   hah- itakhe- ?  
           3.PL.M.NOM-SREFL-path-run       -PUNC  
           ‘They are walking on a path.’
- b. *wa?hage?nhyayé hda?*  
           wa?-hak-                           ?nhy- a-   yēt -ha?  
           FACT-3.SG.M.AG:1.SG.PAT- stick-JOIN- hit -PUNC  
           ‘He hit me with a stick.’

In Mandarin Chinese, the postverbal object position does not have to be occupied by a canonical object. When there are two phrases in the postverbal position that need to be adjacent to the verb, there can be two copies of the verb to license each of the two phrases:

- (48) a. *ta meitian kan shu kan san-ge xiaoshi.*  
           he everyday read book read three-CL hour  
           ‘He reads books for three hours every day.’
- b. *ta laoshi chi rou chi da-kuai, he tang he xiao-wan*  
           he always eat meat eat big-piece drink soup drink small-bowl  
           ‘He always eats big pieces when eating meat, drinks small bowls when drinking soup.’

The canonical object can also be a topic (with or without the verb accompanying the topicalized object).

- (49) a. *(kan) dianshi ta zhi kan banye.*  
           watch TV   he only watch mid-night  
           ‘(Watching) TV, he only watches (TV at) midnight.’
- b. *(kan) yuan-de dongxi ta laoshi kan zuo yan.*  
           watch far-DE thing he always watch left eye  
           ‘(Watching) things at a distance, he always watches (with) the left eye.’
- c. *(he) cha, zaoshang he da bei, wanshang he xiao bei.*  
           drink tea morning drink big cup evening drink small cup  
           ‘(For drinking) tea, drink big cups in the morning, drink small cups in the evening.’

In addition, the object of certain verbs can sometimes be the subject of the sentence and a non-canonical object appears postverbally:

- (50) yuan-de dongxi kan zuo yan; jin-de dongxi kan you yan.  
 far-DE thing see left eye near-DE thing see right eye  
 'Things at a distance are seen with the left eye; things near are seen  
 with the right eye.'

Alternatively, one may simply say that objects do not have to be realized in Chinese, because verbs in Chinese, an analytic language in the sense that verbs are quite bare in feature specifications, are not specified with thematic features (Lin 2001; Huang 2005, 2006, Chapter 1 of this volume; also Williams, Chapter 11 of this volume).

In short, the postverbal object position in Chinese and the incorporated nominal position in NI languages are possible positions for nouns or noun phrases that are not canonical objects because the latter can be realized elsewhere or need not occur.

## 7.2. OBJECT USURPERS VERSUS OBJECT NON-USURPERS

We propose that there are certain prepositions that carry only a case-assigning function and do not assign thematic roles to their objects. These include temporals and locatives in the following examples.

- (51) a. zai zhuo-shang zai xuexiao-waimian  
 at table-top at school-outside  
 'on the table' 'outside the school'  
 b. zai zhuo-xia zai xuexiao-limian  
 at table-under at school-inside  
 'under the table' 'inside the school'

A localizer combines with a (common) noun to become a locative noun. Together they can be the object of *zai* '(be) at.' The need for the preposition *zai* depends on where the locative noun phrase appears. It is needed when the expression is a preverbal adjunct. If it occurs in the subject or object position, the preposition *zai* does not occur. Thus, the preposition *zai* is responsible only for Case assignment (Li 1985, 1990).

- (52) a. women yixiang \*(zai) xuexiao-waimian chi fan.  
 we always at school-outside eat meal  
 'We always eat outside the school.'  
 b. women yixiang chi (\*zai) xuexiao-waimian.  
 we always eat at school-outside  
 'We always eat outside the school.'  
 (53) a. women zhi \*(zai) wanshang zuo shi.  
 we only at evening do work  
 'We only work at evenings.'  
 b. women yixiang zuo (\*zai) wanshang.  
 we always do at evening  
 'We always work at evenings.'

This is reminiscent of bare NP adverbs in Larson (1985), which are noun phrases with a feature that allows them not to require prepositions for Case assignment. What we have here is an adverb-like noun phrase that does not need a P for thematic

assignment. Observe also that an instrument P is not always needed to express the instrument interpretation in English.

- (54) a. This pen generally writes smoothly.  
 b. That knife cuts beautifully.  
 c. A sharp knife cuts better than a dull knife.

Our examples have demonstrated that temporals, locatives, and instruments can be object usurpers. In contrast, it seems difficult to find any instances using a noun phrase as a comitative without any comitative marking (marking by a distinct comitative Case or P, or an applicative). We refer to this type as “object non-usurper” based on the observations in the previous section. These elements require some marking to make a noun phrase obtain the intended adjunct interpretation. Another example is that of benefactives. Unless there is an applicative construction or a benefactive marked by Case or P, it seems impossible to find an instance of a non-marked nominal interpreted as a benefactive. Recipients seem to generally require some marking as well—applicative, (inherent) Case or a special preposition.

For convenience, we refer to the special markings such as applicatives, adpositions, and case markers that mark the grammatical functions of arguments as functors. Arguments with functors are interpreted according to their co-occurring functors. In contrast, those without functors are not accompanied with grammatical indications of the thematic roles they play. They are interpreted according to an institutionalized or conventionalized relation with the related verb (or the event), that is, our institutionalized world knowledge of how participants are related to activities or events. For instance, an activity of writing, cutting, and so on, conventionally takes place with an instrument, and a particular instrument is conventionally associated with such an activity. An activity can also be conventionally situated in a time or place. Accordingly, instrument, temporal, and locative phrases are typically associated with activity verbs. Types of activities may also be associated with different locative expressions. For instance, with a directional movement verb, the locative nominal related to it without a functor is interpreted as the destination of the movement, as illustrated by the Chinese directional verb like *qu* ‘go’ or *lai* ‘come.’

- (55) *qu/lai xuexiao/jiaotang/yiyuan*  
 go/come school/church/hospital  
 ‘go/come to school/church/hospital’
- (56) a. *qu ta nali*  
 go him there  
 ‘go to him’  
 b. *lai wo zher*  
 come me here  
 ‘come to me’

The locative noun phrases in these cases must be interpreted as destination points. In contrast, the locative noun phrase in the object position of a non-directional activity verb can only denote the location where the activity takes place, as in (57), because the activity of running is non-directional.

- (57) ta xihuan pao gongyuan.<sup>19</sup>  
 he like run park  
 'He likes to run in the park.'

The way to interpret non-canonical objects may be naturally extended to interpreting other arguments without functors, such as canonical objects. That is, there should be no significant differences in the mechanisms for interpreting canonical and non-canonical objects in Chinese, as noted in passing in note (14) and the beginning of section 5. Both sets do not have co-occurring functors specifying interpretations (applicatives, specific case markers, Ps). They both denote the participants whose relations with the activities expressed by the related verbs are conventionally established. This may also give us an answer as to why Chinese prominently allows non-canonical objects when many other languages do not, which is elaborated below.

Let us compare English and Chinese. English has verbs that optionally take objects. The question is why the non-occurrence of an object in such cases does not productively allow a non-canonical object to occur. For instance, the verb *eat* in English is not required to take an object; but a non-canonical object in its object position is still difficult. A preposition generally cannot be deleted. The sentence in (58b) is acceptable without *at* only if *fancy restaurants* is interpreted as the object that is eaten.

- (58) a. John likes to eat.  
 b. John likes to eat \*(at) fancy restaurants.

Why is it that the noun phrase following the verb in the English sentence in (58b) has to be interpreted as the canonical object of the verb, but the corresponding Chinese one need not be? We propose that this is due to the absence of case morphology in Chinese.

### 7.3. CASE MORPHOLOGY

A prominent common property shared by non-canonical objects in Chinese and the incorporated noun in NI languages is the absence of case morphology. As is well known, Chinese does not have any overt case markings.<sup>20</sup> Incorporated nouns in NI constructions do not have any case markings, either.<sup>21</sup> We show next that the absence

<sup>19</sup> When more than one conventional relation is institutionalized between an activity and a participant, ambiguity arises. For instance, the following sentence is three-way ambiguous.

- (i) qing ni xie zhe-zhi maobi.  
 please you write this-CL brush.pen  
 'Please write with this brush pen.'

'This brush pen' in this example can indicate a locative, an instrument, or a theme: write on this brush pen, write with this brush pen, write the words 'this brush pen.'

<sup>20</sup> In fact, it has been suggested that the notion of abstract Case is not relevant in Chinese (Hu 2007; Markman 2009). We will return to this issue in section 8.

<sup>21</sup> The full NP in the canonical object position is not overtly case-marked, either. However, it triggers agreement (Northern Iroquoian has both subject and object agreement); whereas incorporated nouns consistently fail to trigger agreement.

of case morphology allows a noun phrase without a functor to occur in the object position.

Recall that if functors exist, the interpretation of the related arguments would be restricted by such functors. Ps, overt case morphology and applicatives are functors (or at least are indicative of the existence of a functor). In noun incorporation patterns, the noun is not case marked. The observed non-canonical objects occur in Chinese, which is a language that does not have any overt case markings. In other words, in both noun incorporation and non-canonical object constructions, case morphology does not exist. A locative/temporal/ instrument noun (phrase) occurs in a position for a noun (phrase) without functors—incorporated position or object position. Therefore the interpretation is not limited by functors. As long as there is a conventional or institutionalized relation with the related verb, the noun (phrase) can be interpreted.

This predicts that even English, a language that has case morphology, should also allow object usurpers in constructions without case markings.<sup>22</sup> This turns out to be true. English N-V-*er/ing* compounding patterns not only allow thematic objects to occur in the N position, but also temporal, locative, and instrumental expressions. Notably, only object usurpers are possible in such a pattern.

- (59) a. truck-driver/driving, apple-picker/picking, stamp-collector/collecting, dishwasher/washing, lawn mower/mowing, ice-breaker/breaking, etc.  
 b. axe-murderer/murdering, street-walker/walking, Sunday driver/driving, bed-hopper/hopping, church-goer/going, etc.  
 c. \*child-giver/giving; \*friend-goer/going (someone who goes places with friends); \*elderly-worker/working (someone who does work for the elderly), etc.

In addition, like NI and non-canonical objects, these forms exhibit some degree of productivity and typically have an institutionalized meaning.

- (60) a. Is that the kind of mother you want? Some boring, old, normal, old toilet-goer? [heard on a British sitcom]  
 b. The gear necessary for night hunting is often cumbersome and it is sometimes awkward to carry afield. [from a website for a hunting club in the US]

Moreover, we should predict that in a language with case morphology consistently, a non-canonical object is not possible, even when there is an additional accusative position. This is borne out in a language like Korean. Korean is very much like Chinese in many ways (such as bare nouns having definite and indefinite interpretations, use of classifiers, *wh*-phrases used as non-interrogative universal or existential expressions, use of sentence-final particles, among many other shared characteristics).

<sup>22</sup> What matters is the position that shows case markings, not that every item in that position needs to carry case morphology. Thus, even though only pronouns in English show overt case markings, it is assumed that all NPs carry accusative case marking when they occur in object positions. Objects in English therefore are positions with case markings. This contrasts with the compounding pattern, which does not case-mark the compounded noun and is insensitive to case morphology.

However, it differs from Chinese in the prominent use of morphological cases. It also allows two nominal phrases with accusative case marking in a verb phrase. The two accusative case-marked NPs can occur in either ordering, as in (61a, b).

- (61) a. John-i chayk-ul sey sikan-ul ilk-ess-ta  
 John-NOM book-ACC three hours-ACC read-PST-DECL  
 b. John-i sey sikan-ul chayk-ul ilk-ess-ta  
 John-NOM three hours-ACC book-ACC read-PST-DECL  
 'John read the book for three hours.'

Given the availability of two instances of accusative marking within one VP, one might wonder whether a non-canonical object is possible because an additional accusative case position is available other than the one for the canonical object. Very interestingly, Korean does not allow the type of non-canonical objects we saw in Chinese.

- (62) John-un nac-ey/\*ul ca-ko siphe-ha-n-ta.  
 John-TOP daytime-at/\*ACC sleep-COMP want-LV-PRS-DECL  
 'John wants to sleep in the daytime.'

In short, we have seen that NI constructions, non-canonical objects in Chinese, and compounds in English all allow the same range of elements—object usurpers. What is shared by these constructions is the absence of case morphology. In contrast, a language with case morphology like Korean does not have object usurpers, even though such a language may have two accusative case-marked positions.<sup>23</sup> This shows that the availability of a non-canonical object is related to the lack of case morphology (functors). The NP position licensed by verbs can be occupied by a non-canonical object as well as a canonical object.

This question should be asked: Is an object position in Chinese like an incorporated noun or compounded noun, which is not even assigned abstract Case? That is, should we conclude that the notion of abstract Case is irrelevant in Chinese?

## 8. Abstract Case in Chinese

We argue that the absence of case morphology in Chinese does not mean that the notion of abstract Case is irrelevant to this language (see Hu 2007; Markman 2005, 2009).<sup>24</sup>

As Li (1985, 1990) demonstrates, the notion of abstract Case is crucial in Chinese for capturing word order facts regarding arguments. Briefly, if we take the theory of abstract Case to govern the distribution of noun phrases, applying the notion of

<sup>23</sup> We were not able to clearly define the behavior of compounds in Korean, corresponding to that in English, due to the absence of clear empirical generalization.

<sup>24</sup> Legate (2008) argues that morphological case and abstract Case are not identical, but both are needed by NPs, resulting in mismatches of abstract Case and morphological cases in some instances. The need for both forms of Case accounts for numerous puzzling facts regarding agreement and case realizations in many different types of languages.



abstract Case to Chinese allows us to capture the use or non-use of Ps in different syntactic positions in this language. It also allows a non-canonical object to occur in the postverbal position where a canonical object occurs because the Case requirement on noun phrases is satisfied. A canonical and a non-canonical object do not co-occur after the same verb because there is generally only one Case available from the verb to one noun phrase.<sup>25</sup> The Case-marker P does not occur with a non-canonical object, as the verb has already provided the needed Case.

Moreover, the arguments against the existence of abstract Case in Chinese found in the literature actually do not hold up well. Markman (2009) links abstract Case with case morphology. She proposes that the absence of case morphology implies the absence of abstract Case, and suggests that Case and agreement features are not universal. She groups languages into the following types according to their Case and agreement properties.

- (63) Type A: Northern Iroquoian, Agreement marking, no Case; NP dislocation obligatory  
 Type B: Indo-European, both Agreement and Case; NP dislocation available  
 Type C: Japanese, Case, no Agreement; NP dislocation available  
 Type D: Chinese, no Agreement or Case; NP-dislocation highly restricted

Chinese (Type D) is a language without agreement or Case, the latter due to the lack of case morphology, according to Markman. The proposal is claimed to be supported by the rigidity of word order in this language: "... word order is a way to preserve thematic relations at PF in the absence of case and/or agreement marking. ... Case and agreement morphemes can be viewed as the PF reflexes of thematic relations that hold within the vP between the verb and at least one of its arguments. However, in the absence of Case and agreement features, thematic relations at PF can be preserved via a rigid relative word order of constituents within the vP" (p. 417).

Unfortunately, contrary to the claim by Markman, English (Markman's type B language) is actually more rigid in word order than Chinese. English essentially has rigid SVO word order, whereas Chinese has the following frequently-occurring word orders, in addition to SVO.

- (64) a. niurou, ta bu chi. ---OSV  
 beef he not eat  
 'Beef, he does not eat.'  
 b. ta niurou bu chi. ---SOV  
 he beef not eat  
 'He does not eat beef.'

Chinese also has pairs of reversible word orders not found in English (examples from Huang, Li, and Li 2009, chapter 2, (58)–(60)).

- (65) a. xiao bei he lücha.  
 small cup drink green.tea  
 'Use the small cup to drink the green tea.'

<sup>25</sup> Double object verbs of the form [V + Indirect Object + Direct Object] are lexically specified as such.

- b. lücha he xiaobei.  
green.tea drink small cup
- (66) a. ni-de keren shui na-zhang chuang ba.  
your guest sleep that-CL bed SFP  
'Let your guest sleep on that bed.'
- b. na-zhang chuang shui ni-de keren ba.  
that-CL bed sleep your guest SFP
- (67) a. jieri liwu dou gei-le pengyou-men le.  
holiday gift all give-LE friend-pl SFP  
'Holiday gifts were all given to the friends.'
- b. pengyou-men dou gei-le jieri liwu le.  
friend-PL all give-LE holiday gift SFP  
'Friends were all given gifts.'

Markman's reasoning based on rigidity of word order should actually lead to the claim that Chinese must have Case.

Briefly summing up, the theory of abstract Case can accommodate the distribution of noun phrases and the presence/absence of Ps in Chinese. In addition, the kinds of arguments for the lack of abstract Case in Markman's works would actually lead one to expect that the notion of abstract Case should be relevant in Chinese. In short, we maintain the claim that the notion of abstract Case is relevant in Chinese. It is just that it does not manifest itself with any overt case markings. Then, in terms of "functors" assumed in this work, how do we distinguish the patterns with case morphology (English/Korean patterns distinguishing nominative and accusative cases) and those without (English compounding, NI in Northern Iroquoian and Chinese) such that only the latter allow object usurpers? We suggest the following structural distinction between abstract Case and morphological case: only the constructions with case morphology project agreement projections that can be realized as nominative or accusative case markings. The patterns that do not have case morphology at all do not project such agreement projections. The notion of abstract Case is expressed in terms of relation with a certain head ( $\nu$  or Tense)—arguments in the Specifier position of these heads satisfy the requirement of having an abstract Case. In the patterns with case morphology, arguments need to move to the relevant agreement projections in order to obtain the proper case morphology. In other words, it is the presence versus absence of agreement projections in the relevant constructions that gives rise to the realization of case morphology.<sup>26</sup> Agreement is a functor assumed in this work but not the structural relation between an argument with respect to a verb or Tense (notion of abstract Case).

<sup>26</sup> Alternatively, the agreement projection may give rise to agreement morphology. In other words, if a construction has either case or agreement morphology, agreement projections exist and object usurpers are not possible. Furthermore, the presence of an agreement projection does not necessarily mean that there must always be overt case or agreement morphology. For instance, non-pronominal NPs in object positions in English do not have any morphological markings. The clue to the existence of an agreement projection is the case morphology required for pronouns in the relevant positions.

## 9. Conclusions

Chinese has similar possibilities and constraints in licensing non-canonical objects as in NI in Northern Iroquoian languages. NI and non-canonical objects allow themes, locatives, temporals, and instruments, but not benefactives, recipients, or comitatives. English compounds were also shown to exhibit the same range of restrictions—object usurpers versus object non-usurpers. We propose that these striking similarities can be traced to the possibility of object usurpers occurring without functors and the absence of case morphology—further confirmed by the impossibility of non-canonical objects in Korean, despite the fact that it allows two accusative marked noun phrases within a verb phrase. In regard to the interpretation of object usurpers, functors indicating the specific functions of the object-usurpers are missing. Following Borer (2005), for instance, we assume that the interpretative possibilities are supplied by world knowledge/pragmatics. Non-canonical objects, NI, and compounds are subject to cultural and institutionalized norms within their languages. Directly relating a verb and an NP without a functor means that the interpretation is generally conventionalized or institutionalized.<sup>27</sup>

The fact that Chinese and Northern Iroquoian languages have similar object usurpers, as well as English compounding, has interesting implications for the notion of analysis and synthesis in describing types of languages. Chinese is a language that tends to be an example of an isolating or analytic language, whereas Northern Iroquoian languages have many inflections attached to verbs, and nouns are often incorporated to verbs—highly synthetic languages. English is not as synthetic as Northern Iroquoian languages but not as analytic as Chinese, according to morphological complexities. Yet, all these languages have the same possibilities and constraints in some constructions: verb-object constructions in Chinese, noun incorporation in Northern Iroquoian languages, and compounding in English. Recall that the possibility of non-canonical objects in Chinese has been attributed to the analytic nature of Chinese, in contrast to the synthetic nature of English, which has been claimed to disallow non-canonical objects; that is, whether lexical verbs are specified with thematic features (e.g., Lin 2001). This chapter shows that if such an analysis versus synthesis distinction (analysis-synthesis parameter) is adopted, it should not apply to languages as a whole (macro-parameter to distinguish types of languages). Rather, it is the individual constructions that need to be considered. We propose that the relevant constructions in Chinese, Northern Iroquoian, and English are unified by the lack of case morphology. They contrast with the constructions with case morphology, such as verb-object constructions in English and Korean. Because individual constructions should be considered, micro-parameters are relevant. Macro-parameters would be aggregation of correlated differences, as discussed in length in Huang (Chapter 1 of this volume).

<sup>27</sup> As Chinese does not have case morphology at all, we should also expect to see non-canonical subjects. This is true (Lin 2001). We will extend our account to non-canonical subjects in a separate work.

## Acknowledgment

We would like to thank Lisa Cheng, James Huang, Bingfu Lu, Jane Tang, Tingchi Wei, Chiafen Wu, and the audience at TEAL 8 in Tsing-Hua University, 2012 International Conference on Bilingualism and Comparative Linguistics at the Chinese University of Hong Kong, the 2011 West Coast Conference on Formal Linguistics at Santa Cruz, and the Institute of Linguistics at Academia Sinica for their comments and suggestions. The first author wishes to acknowledge the generous financial support of SSHRC (#410-2011-2417). The second author would like to especially thank James Huang for his mentorship, friendship, support, and inspiration through the decades.

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