

### 3. THE "PHRASE STRUCTURE CONDITION" AND VERB COPYING

#### 3.1. The "Phrase Structure Condition"

In the introduction, I briefly mentioned the "Phrase Structure Condition" (PSC) proposed by James C.T.Huang(1982') in order to explain the ungrammaticality of the structure 'verb inner object outer object' (e.g. \*Yīshēng kāi dāo bìnggrén 'doctor open knife patient'). The PSC is defined by Huang as follows:

The PSC (final version)

- a) The internal structure of a phrase XP in Chinese is head-initial for the expansion of complements of X ( $X \neq N$ ), and head-final otherwise.
- b) At SS [S-structure, W.P.]<sup>1</sup> there is at most one sub-structure  $X^i$  of XP such that  $X^i$  is head-initial and lexically branching.

(Huang 1982': 2.6)

Applied to the NP, the PSC predicts that the NP will always be head-final, modifiers and complements both preceding the head. (Huang thus explicitly states the well-known fact that within the NP the determiners are always left of the head.)

As to the predictions made by the PSC for the VP, it is important to know that "complement" here refers to the element subcategorised for by the verb, i.e. the inner complement, in contrast to the outer complement which is not subcategorised for by the verb. Consequently, the PSC forbids two (or more) constituents after the verb only if they are on different levels,

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<sup>1</sup> The S-structure can be roughly defined as the former surface structure enriched by traces due to transformations. The index  $i$  in  $X^i$  represents a number which indicates the level of the phrase, i.e. it gives the number of bars. Thus,  $V^2 = \bar{\bar{v}}$ .

i.e. if they are both inner and outer complements.<sup>2</sup> Thus, a structure like (1) violates the PSC, whereas the structure in (2) is in harmony with it, the two NPs both being inner complements of the verb:

(1) \* $[\bar{v}[\bar{v} \text{ V NP } ] \text{ NP } ]$

(2)  $[\bar{v} \text{ V NP NP } ]$

Consequently, double object verbs like sòng 'to give (as a present)', mài 'to sell', wèn 'to ask' and tōu 'to steal' do not violate the PSC, because the indirect and the direct object - being subcategorised - are sisters of the verb. The same holds true for the so-called "pivot" verbs like jiào 'to order, to tell', bī 'to force' and ràng 'to let' which not only subcategorise for a direct object, but also for a sentential complement (cf. Huang 1982': 2.4):

(3) 我逼他去  
Wo bī ta qu  
1SG force 3SG go

I forced him to go.

A sentence like \*Yīsheng kāi dāo bìngrén can only be excluded by the PSC if we postulate  $[\bar{v}[\bar{v} \text{ verb inner object} ] \text{ outer object} ]$  as the underlying structure for the VOPs; for in such a structure the outer object, not being subcategorised for by the verb, is on a different level from the inner object. This does not mean, however, that the outer object is an outer complement on a par with a circumstantial complement, for example. The outer object does not entertain a relationship with the verb, but with the VOP

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<sup>2</sup> For intransitive verbs, the distinction between inner and outer complements is evidently not important, and the PSC is tantamount to an interdiction of more than one constituent in postverbal position.

as a whole, and I would like to claim that the structure  $[[\text{verb inner object}] \text{ outer object}]$  represents the syntactic hierarchies as well as the relations of subcategorisation. Supporting evidence for this point of view comes from the behaviour of the outer object in verb copying (cf. below, 3.2.4.).

### 3.2. Verb copying

One of the phenomena which in light of the PSC is easily explainable and which loses its "exoticness" (cf. Li 1975: 881) is the so-called "verb copying": the phenomenon that the verb must be repeated when accompanied by its object, the inner complement, and an outer complement which is a complement of duration, frequency or manner:

(4a) \*我看了書三個鐘頭  
Wo kan -le shu san-ge zhongtou  
1SG look-PERF book 3 -CL hour

(4b) 我看書看了三個鐘頭  
Wo kan shu kan -le san-ge zhongtou  
1SG look book look-PERF 3 -CL hour

I have read for three hours.

(5a) \*我等了信半天  
Wo deng-le xin bantian  
1SG wait-PERF letter long:time

(5b) 我等信等了半天  
Wo deng xin deng-le bantian  
1SG wait letter wait-PERF long:time

I have waited for mail a long time.

(6a) \*我騎過馬兩次了  
Wo qi -guo ma liang-ci le  
1SG ride-EXP horse 2 -time PART

(6b) 我騎馬騎過兩次了  
Wo qi ma qi -guo liang-ci le  
1SG ride horse ride-EXP 2 -time PART

I have ridden on a horse twice.

- (7a) \*他看書得很仔細  
Ta kan shu de hen zixi  
3SG look book DE very careful
- (7b) 他看書看得很仔細  
Ta kan shu kan de hen zixi  
3SG look book look DE very careful  
He reads very carefully.
- (8a) \*他等信得很不耐煩  
Ta deng xin de hen bunaifan  
3SG wait letter DE very impatient
- (8b) 他等信等得很不耐煩  
Ta deng xin deng de hen bunaifan  
3SG wait letter wait DE very impatient  
He waits for mail very impatiently.<sup>3</sup>

Sentences (4a) - (8a) are unacceptable because here the verb is not only followed by its inner complement, i.e. the direct object, but also by an outer complement, i.e. a complement of duration, frequency or manner, respectively, thus resulting in the structure [ $\bar{v}$ [ $\bar{v}$  V NP ] outer complement ] excluded by the PSC. The structure of the sentences (4b) - (8b), [ $\bar{v}$ [ $\bar{v}$  V NP] [ $\bar{v}$  V outer complement ]], however, is in harmony with the PSC, each verb being followed by one constituent.<sup>4</sup> We still have to verify the

<sup>3</sup> As the status of *de* which introduces the complement of manner is not clear, I do not analyse it here. Perhaps Huang(1982: 490) is right in considering it as a complementiser.

<sup>4</sup> If in (4a) - (8a) the direct object is moved to a preverbal position, either by *bǎ* (see (i)) or by topicalisation (see (ii)), the sentences are acceptable, because now the verb is only followed by one constituent, the outer complement:

- (i) 我把書看了三個鐘頭  
Wo ba shu kan -le san-ge zhongtou  
1SG BA book look-PERF 3 -CL hour  
I have read the book for three hours.
- (ii) 這本書我看了三個鐘頭  
Zhei-ben shu, wo kan -le san-ge zhongtou  
this-CL book 1SG look-PERF 3 -CL hour  
This book, I have read it for three hours.

prediction made by the PSC that it is not the first  $\bar{V}$  which is the head of  $\bar{V}$  (the head-initial position being allowed only on the lowest level of expansion), but the second  $\bar{V}$  containing the copied verb. In fact, there are a number of data confirming this analysis (cf. Li 1975: 880; Li & Thompson 1981: 447-450; Huang 1982': 2.5; Li Linding 1984).

First, only the second verb can be suffixed with an aspect marker:

- (9a) 我看書看了三個鐘頭  
Wo kan shu kan -le san-ge zhongtou  
1SG look book look-PERF 3 -CL hour
- (9b) \*我看了書看三個鐘頭  
Wo kan -le shu kan san-ge zhongtou  
1SG look-PERF book look 3SG-CL hour  
I have read for three hours.
- (10a) 我等信等了半天  
Wo deng xin deng -le bantian  
1SG wait letter wait-PERF long:time
- (10b) \*我等了信等半天  
Wo deng -le xin deng bantian  
1SG wait-PERF letter wait long: time  
I have waited for mail a long time.

(footnote 4 continued)

(When the verb is followed by only one constituent as in (i) and (ii),  $\bar{v}$  can be substituted for  $\bar{V}$ , for there is no direct object, or  $\bar{v}$  can be declared to be the lowest level here.) If neither preposing by *bǎ* nor topicalisation is possible, there is another way to "save" the structure [[V NP] outer complement] with regard to the PSC: the complement of duration or of frequency can appear as a modifier of the direct object noun:

- (iii) 我看了三個鐘頭的書  
Wo kan -le san-ge zhongtou-de shu  
1SG look-PERF 3 -CL hour -SUB book  
I have read for three hours.

This phenomenon will be discussed in chapter 6.1.

Secondly, only the copied verb can be preceded by adverbs like yǐjīng 'already', zhǐ 'only' etc.:<sup>5</sup>

- (11a) 他等信已經等了半天  
Ta deng xin yijing deng-le bantian  
3SG wait letter already wait-PERF long:time
- (11b) \*他已經等信等了半天  
Ta yijing deng xin deng-le bantian  
3SG already wait letter wait-PERF long:time  
I have already waited a long time for mail.

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<sup>5</sup> The situation is more complicated in the case of negation whose markers bù and méi are commonly considered to be adverbs. Though as predicted by the PSC the negation of the first verb is completely impossible, the negation of the second verb is rarely fully acceptable, either (see (i)). Instead, it is preferable to negate only the complement of duration or of frequency (see (ii)), or to negate the structure where the complement of duration or of frequency appears as a modifier of the object noun (see (iii)):

- (i) ?他看書沒看三個鐘頭，只看了一個鐘頭  
Ta kan shu mei kan san-ge zhongtou  
3SG look book NEG look 3 -CL hour  
  
zhi kan -le yi-ge zhongtou  
only look-PERF 1 -CL hour  
  
He has not read for three hours, but only for one hour.
- (ii) 他看書看了四個鐘頭，不是三個鐘頭  
Ta kan shu kan -le si-ge zhongtou  
3SG look book look-PERF 4 -CL hour  
  
bu shi san-ge zhongtou  
NEG be 3 -CL hour  
  
He has read for one hour, not for three hours.
- (iii) 他沒看三個鐘頭的書，只看了一個鐘頭  
Ta mei kan san-ge zhongtou-de shu,  
3SG NEG look 3 -CL hour -SUB book  
  
zhi kan -le yi-ge zhongtou  
only look-PERF 1 -CL hour (cf. above, footnote 4)  
  
He has not read for three hours, but only for one hour.

A sentence like (i) is problematic because it is probably conceived as contradictory that the affirmation of an event is followed by its negation. It is interesting to observe that in the case of a complement of manner, the negation of the second verb is fully acceptable, thus confirming the prediction made by the PSC:

- (12a) 我看書只看了三個鐘頭  
Wo kan shu zhi kan -le san-ge zhongtou  
1SG look book only look-PERF 3 -CL hour
- (12b) \*我只看書看了三個鐘頭  
Wo zhi kan shu kan -le san-ge zhongtou  
1SG only look book look-PERF 3 -CL hour  
  
I have only read for three hours.
- (13a) 你等車可以等五分鐘，多了不行  
Ni deng che keyi deng wu-fenzhong duo le bu xing  
2SG wait car can wait 5 -minute much PART NEG possible
- (13b) \*你可以等車五分鐘，多了不行  
Ni keyi deng che deng wu-fenzhong duo le bu xing  
2SG can wait car wait 5 -minute much PART NEG possible  
  
You can wait five minutes for the car, but not more.
- (14a) 他看書能連續看四個鐘頭  
Ta kan shu neng lianxu kan si-ge zhongtou  
3SG look book can continuous look 4 -CL hour
- (14b) \*他能連續看書看四個鐘頭  
Ta neng lianxu kan shu kan si-ge zhongtou  
3SG can continuous look book look 4 -CL hour  
  
He can read for four hours without a break.

The suffixation with aspect markers clearly shows that the second verb is the main verb. As to being preceded by adverbs and auxiliaries, this is strictly speaking a property of the verb phrase, and not of the verb. But the compatibility of the second verb with aspect markers together with its compatibility with adverbs and auxiliaries prove that the second  $\bar{V}$  is the head of the entire VP, as predicted by the PSC, the first  $\bar{V}$  thus being reduced to a kind of degenerate  $\bar{V}$  lacking the properties mentioned above.

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(footnote 5 continued)

- (iv) 我今天吃飯並沒吃得很飽  
Wo jintian chi fan bing mei chi de hen bao  
1SG today eat food at:all NEG eat DE very full  
  
Today I have not eaten to my satisfaction at all.

## 3.2.1. Restructuring modeled on double object verbs

There exists a set of counter-examples to the PSC where the verbs in question are neither double object verbs nor pivot verbs, but where nevertheless verb copying is not obligatory:

- (15) 我拜訪了張三三個鐘頭  
 Wo baifang-le Zhangsan san-ge zhongtou  
 1SG visit -PERF Zhangsan 3 -CL hour  
 I saw Zhangsan for three hours.
- (16) 我等了三個鐘頭  
 Wo deng-le ta san-ge zhongtou  
 1SG wait-PERF 3SG 3 -CL hour  
 I have waited three hours for him.
- (17) 我看過這個電影三次了  
 Wo kan -guo zhei-ge dianying san-ci le  
 1SG look-EXP this-CL film 3 -time PART  
 I have seen this film three times.
- (18) 他去了北京好幾次了  
 Ta qu-le Beijing hao ji -ci le  
 3SG go-PERF Peking very several-time PART  
 He has been to Peking many times.

The optionality of verb copying is due to the nature of the direct object: in all the examples cited, it is referential and animate ((15), (16)) or referential and definite ((17), (18)), respectively (cf. Li & Thompson 1981: 444).<sup>6</sup> If the direct object

<sup>6</sup> Li & Thompson (1981: 126-130) give the following definition of "referential" and "definite": "A noun phrase is referential when it is used to refer to an entity. This entity may be physical or conceptual, real or hypothetical ..." (p. 126). Noun phrases with a predicative function like yīshēng 'doctor' in (i) are examples of non-referential NPs:

- (i) 他是醫生  
 Ta shi yisheng  
 3SG be doctor  
 He is a doctor.

lacks these properties, verb copying is obligatory:<sup>7</sup>

- (19a) \*我看了電視三個鐘頭  
 Wo kan -le dianshi san-ge zhongtou  
 1SG look-PERF television 3 -CL hour
- (19b) 我看電視看了三個鐘頭  
 Wo kan dianshi kan -le san-ge zhongtou  
 1SG look television look-PERF 3 -CL hour  
 I have watched television for three hours.
- (20a) \*我等了信半天  
 Wo deng-le xin bantian  
 1SG wait-PERF letter long:time
- (20b) 我等信等了半天  
 Wo deng xin deng-le bantian  
 1SG wait letter wait-PERF long:time  
 I have waited for mail a long time.

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 (footnote 6 continued)

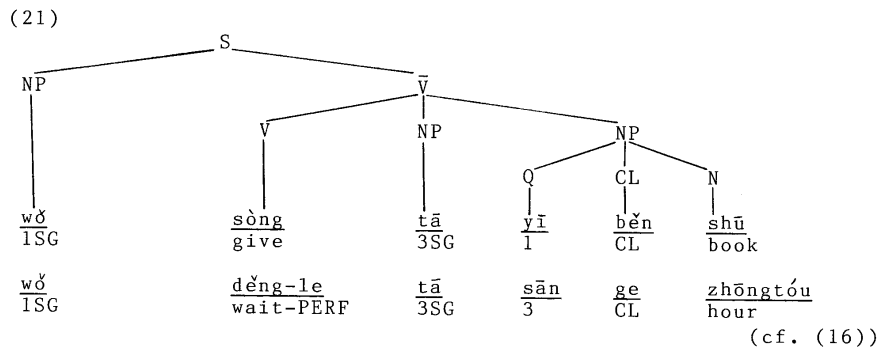
"Only noun phrases that are referential can be definite or indefinite. They differ in that a definite noun phrase refers to an entity that the speaker believes is known to the hearer, while an indefinite noun phrase refers to an entity about which the speaker believes the hearer does not already know." (Li & Thompson 1981: 129-130; emphasis mine, W.P.)

<sup>7</sup> Verb copying should also be obligatory in the following sentences where the NPs xǐshǒujiān 'restroom' and fànguǎn 'restaurant' are neither definite nor animate;

- (i) 我去洗手間一下  
 Wo qu xishoujian yi-xia  
 1SG go restroom 1 -moment  
 I go to the restroom.
- (ii) 這個禮拜我去了飯館兩次  
 Zhei-ge libai, wo qu-le fanguan liang-ci le  
 this-Cl week 1SG go-PERF restaurant two -time PART  
 This week, I have gone to a restaurant twice.

I can offer no explanation for the optionality of verb copying here. Perhaps, it has to do with the fact that verbs of motion like qù 'to go' only allow locative nouns as their objects.

Why is verb copying sensitive to the nature of the direct object?<sup>8</sup> Huang(1982') proposes an analysis which not only explains why verb copying is optional in the case of a referential and definite/animate direct object, but also why such a structure is not excluded by the PSC. According to Huang, sentences like (15) - (18) are the result of restructuring which takes the structure of the double object construction as a model, i.e. they are to be analysed as follows:<sup>9</sup>



Thus, it is no coincidence that verb copying is optional in the case of a referential and animate/definite direct object because then the typical structure of double object verbs showing an animate indirect object and an inanimate direct object, is imitated: the (animate) direct object of děng 'to wait' occupies

8 Only few linguists (e.g. Jia Ying 1985) have examined the cases where verb copying is optional, but none of them has offered any explanation of this phenomenon. This also applies to Li & Thompson(1981) who nevertheless are the first to explicitly state the conditions under which verb copying is optional, i.e. in the case of a referential and definite/animate direct object.

9 It is important not to confuse the structure resulting from restructuring with the deep structure of the sentence in question. Thus, (21) [<sub>S</sub> NP [<sub>V̄</sub> V NP NP]] representing the deep structure postulated for double object verbs is not meant to be the deep structure of Wǒ děng-le tā sān-ge zhōngtóu, but only shows the analysis of this sentence at the level of S-Structure.

the indirect object position of the verb sòng 'to give', whereas the complement of duration sān-ge zhōngtóu 'three hours' is in the direct object position of sòng, i.e. in the same position as yī-běn shū 'a book'. By adopting the structural analysis of double object verbs (with both NPs being sisters of the verbs), the PSC is satisfied.<sup>10</sup>

The fact that in the case of a complement of manner, verb copying is obligatory (regardless of the nature of the direct object), is another argument for Huang's analysis: a structure like (22a) cannot be analysed in terms of the double object construction, and consequently, verb copying is necessary to satisfy the PSC:

(22a) \*我等他得很不耐烦  
Wo deng ta de hen bunaifan  
1SG wait 3SG DE very impatient

(22b) 我等他等得很不耐烦  
Wo deng ta deng de hen bunaifan  
1SG wait 3SG wait DE very impatient

I have waited for him very impatiently.

(23a) \*他說中文得很流利  
Ta shuo zhongwen de hen liuli  
3SG speak Chinese DE very fluent

(23b) 他說中文說得很流利  
Ta shuo zhongwen shuo de hen liuli  
3SG speak Chinese speak DE very fluent

He speaks Chinese very fluently.

10 In fact, in his discussion of the "mock object" tā, illustrated in

(i) 睡他一天  
shui ta yi-tian  
sleep TA 1-day

to sleep an entire day

Lü Shuxiang(1955: 184) proposes a similar analysis: he compares sentence (i) to double object constructions and calls yī-tiān 'one day' a "quasi-object". (Cf. also Chao 1968: 320.)

(24a) \*他看書得很仔細  
Ta kan shu de hen zixi  
3SG look book DE very careful

(24b) 他看書看得很仔細  
Ta kan shu kan de hen zixi  
3SG look book look DE very careful

He reads very carefully.

### 3.2.2. Non-durative verbs and verb copying

So far we have seen that the obligatoriness or optionality of verb copying (in the case of a complement of duration or of frequency) depends on the nature of the direct object. The following sentences (25a) - (27a), however, are all acceptable without verb copying, though in each case the direct object is non-referential, thereby excluding restructuring modeled on the double object construction. In fact, verb copying is even unacceptable here:

(25a) 孩子出世三天了  
Haizi chu shi san-tian le  
child come:out world 3 -day PART

It has been three days since the baby was born.

(25b) \*孩子出世出了三天了  
Haizi chu shi chu -le san-tian  
child come:out world come:out-PERF 3 -day

(26a) 他畢業一年了  
Ta bi ye yi-nian le  
3SG finish studies 1 -year PART

It has been one year since he graduated.

(26b) \*他畢業畢了一年了  
Ta bi ye bi -le yi-nian le  
3SG finish studies finish-PERF 1 -year PART

(27a) 汽車出毛病一個禮拜了  
Qiche chu maobing yi-ge libai le  
car come:out defect 1 -CL week PART

It has been one week since there was something wrong with the car.

(27b) \*汽車出毛病出了一個禮拜了  
Qiche chu maobing chu -le yi-ge libai le  
car come:out defect come:out-PERF 1 -CL week PART

In order to explain the facts which seem to question the validity of the PSC, it is necessary to take a closer look at the verbs involved. As they are all non-durative, the temporal expressions sān-tiān 'three days', yī-nián 'one year' etc. cannot possibly indicate the duration of the event itself. The only interpretation possible is that sān-tiān 'three days', yī-nián 'one year' etc. refer to the lapse of time between the (beginning of the) action and the moment of utterance (or another point of time indicated). This is to say that sān-tiān 'three days' and yī-nián 'one year' do not function as complements of duration here, but that they serve as predicates for the sentential subjects háizi chū shì 'the baby was born' and tā bì yè 'he graduated', respectively. We thus obtain the structure [ <sub>S</sub> [ <sub>S</sub> NP V NP ] [ <sub>V</sub> NP ] ] for (25a) - (27a), and not the structure [ <sub>S</sub> NP [ <sub>V</sub> [ <sub>V</sub> V NP ] NP ] ] excluded by the PSC.

The fact that temporal expressions like sān-tiān 'three days' can be preceded by yǒu 'to have' or its negation méi, as well as by adverbs like yǐjīng 'already', cái 'only, just', háí 'still' and chàbùduō 'approximately' provides supporting evidence for their predicative function in these sentences:

(28) 孩子出世沒三天  
Haizi chu shi hai mei san-tian  
child come:out world still NEG 3 -day

It has not yet been three days since the baby was born.

(29) 他畢業已經一年了  
Ta bi ye yijing yi-nian le  
3SG finish studies already 1 -year PART

It has already been a year since he graduated.

(30) 汽車出毛病差不多一個禮拜了  
Qiche chu maobing chàbùduō yi-ge libai le  
car come:out defect approximately 1 -CL week PART

It has been about a week now since the car has not been working.

As shown in the following sentences, both yǒu 'to have' and adverbs like yǐjīng 'already' are put at the beginning of the verb phrase:

(31a) 這本書他已經看了三個鐘頭了  
Zhei-ben shu, ta yǐjīng kan -le san-ge zhongtou le  
this-CL book 3SG already look-PERF 3 -CL hour PART

This book, he has already read it for three hours.

(31b) \*這本書他已經看了有三個鐘頭了  
Zhei-ben shu, ta yǐjīng kan -le you san-ge zhongtou  
this-CL book 3SG already look-PERF have 3 -CL hour

(31c) 這本書他看了已經有三個鐘頭了  
Zhei-ben shu, ta kan -le yǐjīng you san-ge zhongtou  
this-CL book 3SG look-PERF already have 3 -CL hour

This book, it has already been three hours that he has been reading it.

(31b) is ungrammatical because the indications given by yǐjīng 'already' and yǒu 'to have' are contradictory: whereas yǐjīng 'already' marks kàn 'to look' as the head of the verb phrase kàn-le sān-ge zhōngtóu and implies the structure [<sub>S</sub> tā [<sub>V</sub> yǐjīng kàn-le sān-ge zhōngtóu]] (which is the structure for (28a)), the presence of yǒu 'to have' before sān-ge zhōngtóu points to the predicative function of sān-ge zhōngtóu 'three hours', thus leading to the structure [<sub>S</sub> [<sub>S</sub> tā kàn-le][<sub>V</sub> yǒu sān-ge zhōngtóu]].

We thus obtain the following situation: if the verb is non-durative, verb copying is excluded, and the temporal expression functions as a predicate.<sup>11</sup> But if the verb is durative, verb copying is possible and the temporal expression indicates the

11 As Marie-Claude Paris(p.c.) has pointed out to me, there are, however, cases where a temporal expression appears in the position of the complement of duration, though it co-occurs with a non-durative verb and must therefore denote the amount of time elapsed since the (beginning of the) event, and not the duration of the event itself:

duration of the event. This generalization starting from the durative or non-durative character of the verb can, however, not be inverted.

First, a temporal expression can also be predicated of a sentential subject containing a durative verb:<sup>12</sup>

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(footnote 11 continued)

- (i) 他已經了三天  
Ta yǐjīng dao -le san-tian  
3SG already arrive-PERF 3 -day  
He already arrived three days ago.
- (ii) 他已經死了好久了  
Ta yǐjīng si -le haojiu le  
3SG already die-PERF long:time PART  
It is already a long time since he died.
- (iii) 他才畢業一個禮拜了  
Ta cai bi ye yi-ge libai le  
3SG only finish studies 1 -CL week PART  
He graduated just one week ago.
- (iv) 他已經走了五年了  
Ta yǐjīng zou-le wu-nian le  
3SG already go -PERF 5 -year PART  
He already left five years ago.

The position of the adverb yǐjīng 'already' clearly shows that the following verb is the head of the verb phrase and thereby excludes a predicative function of the temporal expression. It seems, however, that only non-durative verbs make use of this structure to indicate the lapse of time since the (beginning of the) event. For with durative verbs, the temporal expression in such a structure is necessarily interpreted as the duration of the event itself; when the lapse of time between the event and the moment of utterance is to be expressed, the structure where the temporal expression is predicated of a sentential subject must be used.

The occurrence of non-durative verbs in the complement structure illustrated in sentences (i) - (iv) remains mysterious to me. Audrey Li(1987: 15) who claims that temporal expressions can appear in both the complement structure and the predicate structure, no matter whether they indicate the duration of the event itself or the amount of time elapsed since the event, considers sentences like (i) - (iv) as complement structures. She does not, however, discuss how to reconcile this analysis with the non-durative character of the verbs in question.

12 In the case of durative verbs, there is, however, a rather strong tendency to interpret a temporal expression as the



(32a) 他看書已經有三個鐘頭了  
Ta kan shu yijing you san-ge zhongtou le  
3SG look book already have 3 -CL hour PART

(32b) 他看書已經看了三個鐘頭了  
Ta kan shu yijing kan -le san-ge zhongtou  
3SG look book already look-PERF 3 -CL hour

He has read for three hours.

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(footnote 12 continued)

duration of the event itself. This explains why sentences (i) and (ii) lacking yǒu 'to have' or an adverb signaling the predicative function of the temporal expression, are not acceptable:

(i) \*他看書三個鐘頭了  
Ta kan shu san-ge zhongtou le  
3SG look book 3 -CL hour PART

(ii) \*我等信半天了  
Wo deng xin bantian le  
1SG wait letter long:time PART

The corresponding acceptable sentences have yǒu as well as an adverb:

(iii) 他看書已經有三個鐘頭了  
Ta kan shu yijing you san-ge zhongtou le  
3SG look book already have 3 -CL hour PART

It has already been three hours that he has been reading.

(iv) 我等信已經有半天了  
Wo deng xin yijing you bantian le  
1SG wait letter already have long:time PART

It has already been a long time that I have been waiting for mail.

In fact, it is this structure which is used for the negation of the temporal expression alone. Contrary to the negation of the second verb in the verb copying construction (vi) (cf. footnote 5), it is completely acceptable:

(v) 他看書沒有三個鐘頭  
Ta kan shu hai mei you san-ge zhongtou  
3SG look book still NEG have 3 -CL hour

It is not three hours yet that he has been reading.

(vi) ?他看書沒有三個鐘頭  
Ta kan shu mei kan san-ge zhongtou  
3SG look book NEG look 3 -CL hour

He has not read for three hours.

As to the differences between the verb copying construction and the structure with the temporal expression in the predicative function, according to Jia Ying(1985: 26), the duration of the event is emphasized more in the verb copying construction.

(33a) 他學漢語一年了  
Ta xue hanyu yi-nian le  
3SG learn Chinese 1 -year PART

(33b) 他學漢語學了一年了  
Ta xue hanyu xue -le yi-nian le  
3SG learn Chinese learn-PERF 1 -year PART

He has been studying Chinese for one year.

(34a) 張三發燒三天了  
Zhangsan fa shao san-tian le  
Zhangsan produce fever 3 -day PART

(34b) 張三發燒發了三天了  
Zhangsan fa shao fa -le san-tian  
Zhangsan produce fever produce-PERF 3 -day

Zhangsan has had a temperature for three days.

There is hardly any difference of meaning between (32a) - (34a), on the one hand, and the corresponding sentences with verb copying (32b) - (34b), on the other hand; from the statement that it is three hours now that he has been reading, it can be deduced that he has been reading for three hours (cf. (32)). The same holds true for (33) and (34): that it is one year now since he started learning Chinese leads to the conclusion that he has been studying Chinese for one year; and that it is three days now that he has had a temperature amounts to saying that he has had a temperature for three days.

Consequently, sentences (32a) - (34a) do not display any structural ambiguity, because the structures themselves are not ambiguous. We can only speak of "ambiguity" in so far as there is a choice between the "original" meaning, i.e. the meaning corresponding to the syntactic structure in question, and the meaning derived from this original meaning by means of a pragmatic deduction. As sentence (35) shows, this choice can nevertheless make a difference:

- (35a) 他起床半小時了，早就洗過臉了。  
 Ta qi chuāng ban -xiaoshi le , zaojiu xi -guo  
 3SG get:up bed half-hour PART long:ago wash-EXP  
 lian le  
 face PART  
 He got up half an hour ago and washed his face  
 long since.
- (35b) 他起床半小時了，還沒下床  
 Ta qi chuāng ban -xiaoshi le, hai mei  
 3SG get:up bed half-hour PART still NEG  
 xia chuāng  
 descend bed  
 He has made efforts to get up for half an hour, but he  
 has not got out of bed yet.  
 (Jia Ying 1985: 25-26)

Secondly, 'yǒu + temporal expression' can also be predicated of a sentential subject containing the verb-copying construction, though such a sentence is not felt to be very natural:

- (36) 他等信等了已經有半天  
 Ta deng xin deng-le yijing you bantian  
 3SG wait letter wait-PERF already have long:time  
 It has already been a long time that he has been waiting  
 for mail.
- (37) 他看書看了已經有三個鐘頭了  
 Ta kan shu kan -le yijing you san-ge zhongtou le  
 3SG look book look-PERF already have 3 -CL hour PART  
 It has already been three hours that he has been reading.

Thirdly, though verb copying is unacceptable for durative verbs when accompanied by a temporal expression indicating duration, this is not so for a temporal expression indicating frequency. When both the object and the complement of frequency are present, verb copying is obligatory, which is the same situation as with durative verbs (cf. above, (4) - (8)).<sup>13</sup>

<sup>13</sup> Besides the verb copying construction, there is another structure in harmony with the PSC: the complement of frequency

- (38) 汽車出毛病出過五次了  
 Qiche chu maobing chu -guo wu-ci le  
 car come:out defect come:out-EXP 5 -time PART  
 There have been problems with the car five times.
- (39) 他丟錢丟過三次了  
 Ta diu qian diu -guo san-ci le  
 3SG lose money lose-EXP 3 -time PART  
 He has lost money three times.

When the verb denotes an event which can be repeated, it is compatible with a complement of frequency like sān-cì 'three times'; as the complement refers to the frequency of the event itself and not to the temporal relationship between the event and the moment of utterance, verb copying is used.

As to the possibility of functioning as a predicate, a temporal expression of frequency cannot be predicated of a sentential subject as easily as a temporal expression of duration. Thus, (40a) and (41a) where the expression of frequency is preceded by yǒu (indicating its predicative function) are somewhat problematic whereas the corresponding sentences with verb copying (cf. (40b)) or without yǒu (cf. (41b)), respectively, are fully acceptable:

- (40a) ??他放火已經有六次了  
 Ta fang huo yijing you liu-ci le  
 3SG put fire already have 6 -time PART

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 (footnote 13 continued)

appears in the modifier position of the object noun:

- (i) 汽車出過五次毛病了  
 Qiche chu -guo wu-ci maobing  
 car come:out-EXP 5 -time defect

There have been problems with the car five times.

This phenomenon will be discussed in detail in chapter 6.1.

- (40b) 他放火已經放了六次了  
 Ta fang huo yijing fang-le liu-ci le  
 3SG put fire already put -PERF 6 -time PART

He has already set a fire six times.

- (41a) ??這本書他看過已經有三次了  
 Zhei-ben shu, ta kan -guo yijing you san-ci le  
 this-CL book 3SG look-EXP already have 3 -time PART

- (41b) 這本書他已經看過三次  
 Zhei-ben shu, ta yijing kan -guo san-ci le  
 this CL book 3SG already look-EXP 3 -time PART

This book, he has already read it three times.

This behaviour of the temporal expression of frequency as well as the other facts discussed so far clearly argue against the claim that the complement of frequency or of duration is in fact the main predicate of the sentence and that, in the underlying representation, it is preceded by yǒu (cf. Teng 1975a). If there were really an underlying yǒu before the complement of duration or of frequency, one would expect this yǒu to be able to "save" a structure like [<sub>S</sub> NP [<sub>V</sub> V NP ] outer complement ] with respect to the PSC, resulting in the structure [<sub>S</sub> [<sub>S</sub> NP V NP ] [<sub>V</sub> (yǒu) (temporal) NP ]]. This, however, is not the case:

- (42) \*他等信(有)半天  
 Ta deng xin (you) bantian  
 3SG wait letter have long:time
- (43) \*他看書(有)三個鐘頭  
 Ta kan shu (you) san-ge zhongtou  
 3SG look book have 3 -CL hour
- (44) 他等信已經有半天了  
 Ta deng xin yijing you bantian  
 3SG wait letter already have long:time

It has already been a long time that he has been waiting for mail.

- (45) 他看書已經有三個鐘頭了  
 Ta kan shu yijing you san-ge zhongtou le  
 3SG look book already have 3 -CL hour PART

It has already been three hours that he has been reading.

The structure [<sub>S</sub> [<sub>S</sub> NP V NP ] [<sub>V</sub> (temporal) NP ]] is much more easily acceptable when the direct object is referential and animate/definite (cf. (46)), which reminds one of the situation where verb copying is optional (cf. (47)):

- (46) 我等他(有)半天了  
 Wo deng ta (you) bantian le  
 1SG wait 3SG have long:time PART

It is a long time that I have been waiting for him.

- (47) 我等了他半天了  
 Wo deng-le ta bantian le  
 1SG wait-PERF 3SG long:time PART

I have waited for him a long time.

But contrary to (47), the verb in (46) cannot be suffixed with an aspect marker:

- (48) \*我等了他有半天了  
 Wo deng-le ta you bantian le  
 1SG wait-PERF 3SG have long:time PART

This clearly shows that a structure like (47) represents the case where verb copying is optional because the presence of the aspect marker excludes a predicative function of the temporal expression. As examples (49) - (52) further show, the unacceptability of an aspect marker (within the sentential subject) seems to be a general property of the structure [<sub>S</sub> [<sub>S</sub> NP V NP ] [<sub>V</sub> (yǒu) temporal NP ]], and thus confirms our analysis of the structure containing a complement of duration and the structure with a temporal expression in predicative function as two distinct types.<sup>14</sup>

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<sup>14</sup> Marie-Claude Paris (p.c.) has drawn my attention to the fact that aspect markers do not seem to be generally excluded from the sentential subject in the structure [<sub>S</sub> [<sub>S</sub> NP V NP ] [<sub>V</sub> (yǒu) temporal NP ]]. Though a new consultation of my informants confirmed the acceptability judgments for sentences of the type illustrated in (49) - (52), the following sentences were equally accepted:

(footnote 14 continued)

- (i) 他走了已經三年了  
Ta zou-le yijing san-nian le  
3SG go -PERF already 3 -year PART  
  
It has already been three years since he went away.
- (ii) 他死了已經好久了  
Ta si -le yijing haojiu le  
3SG die-PERF already long:time PART  
  
It has already been a long time since he died.
- (iii) 他來了已經兩年了  
Ta lai -le yijing liang-nian le  
3SG come-PERF already 2 -year PART  
  
It has already been two years since he came.
- (iv) 他到了台灣已經幾個月了  
Ta dao -le Taiwan yijing ji -ge yueh le  
3SG arrive-PERF Taiwan already several -CL month PART  
  
It has already been several months since he arrived in Taiwan.
- (v) 他離了歐洲已經有三年了  
Ta likai-le Ouzhou yijing you san-nian le  
3SG leave-PERF Europe already have 3 -year PART  
  
It has already been three years since he left Europe.

Perhaps the difference in acceptability has to do with the verb class in question; the verbs in sentences (i) - (v) are all either intransitive verbs or verbs of motion.

Furthermore, the unacceptability of aspect markers within a sentential subject, as observed in the structure with a temporal expression in predicative function (cf. (vii)), does not seem to extend to sentential subjects in general (cf. (vi)):

- (vi) 他去了法國真可惜  
Ta qu(-le) faguo zhen kexi  
3SG go -PERF France really pity  
  
It is really a pity that he left for France.
- (vii) 他去(\*了)法國還不到一年  
Ta qu(\*-le) faguo hai bu dao yi-nian  
3SG go -PERF France still NEG arrive 1 -year  
  
It has not been a year yet since he left for France.

I can offer no explanation for these data nor for the acceptability of an aspect marker within a sentential subject when it contains the verb copying construction (cf. (36) and (37) above). A solution to this problem must await further research about embedded sentences, a domain which apparently has not attracted the attention of many Chinese linguists so far.

- (49) 他學(\*了)漢語沒有一年了  
Ta xue (\*-le) hanyu hai mei yi-nian  
3SG learn -PERF Chinese still NEG 1 -year  
  
It has not yet been a year that he has been studying Chinese.
- (50) 他等(\*了)信已經有半天了  
Ta deng(\*-le) xin yijing you bantian le  
3SG wait -PERF letter already have long:time PART  
  
It has already been a long time that he has been waiting for mail.
- (51) 他發(\*了)燒已經有三天了  
Ta fa (\*-le) shao yijing you san-tian  
3SG produce -PERF fever already have 3 -day  
  
It has already been three days that he has had a temperature.
- (52) 他去(\*了)法國沒有一個月  
Ta qu(\*-le) faguo hai mei yi-ge yueh  
3SG go -PERF France still NEG 1 -CL month  
  
It has not been a month yet since he left for France.

Though I do not agree with the general claim that a complement of duration or of frequency is, in fact, in the underlying representation, the main predicate of the sentence, this does not exclude that a temporal expression of duration or of frequency can, under special circumstances, have a predicative function. This predicative function, however, is not an inherent characteristic of temporal expressions of duration or of frequency in general, but is a property of the structure in question and confirmed by the presence of yǒu as well as by the position of adverbs (cf. above, (28) - (30)).

Though the data cannot be analysed unequivocally in all cases, I nevertheless hope to have shown that there is no equivalence (not to speak of interchangeability) between the structure where the temporal expression is a complement, on the one hand, and the structure where the temporal expression is the main predicate, on the other hand. Besides the nature of the verb

(e.g. durative vs. non-durative), the type of the temporal expression (duration or frequency) as well as the nature of the direct object determine the acceptability of the two structures in question.

### 3.2.3. Objections to the postulate of restructuring

In light of the preceding discussion showing the difference between the verb copying construction and the structure with a temporal expression as the main predicate, I will now examine possible arguments against the analysis of a structure without verb copying, 'NP V NP Complement (of duration /frequency)' in terms of restructuring modeled on the double object construction.

The main objection is based on the lack of a corresponding structure with yǒu 'to have' for the double object construction (cf. (53b)) which is, however, claimed to exist for the structure resulting from restructuring (cf. (54b)); and on the fact that double object verbs do not allow for verb copying as in (53c), whereas for verbs with only one subcategorised argument, the structure without verb copying (cf. 54a) and that with verb copying (cf. (54c) are both acceptable in the case of a referential and animate/definite direct object:

(53a) 我送他一本書  
Wo song ta yi-ben shu  
1SG give 3SG 1 -CL book

I give him a book (as a present).

(53b) \*我送他有一本書  
Wo song ta you yi-ben shu  
1SG give 3SG have 1 -CL book

(53c) \*我送他送一本書  
Wo song ta song yi-ben shu  
1SG give 3SG give 1 -CL book

(54a) 我等了三個鐘頭了  
Wo deng-le ta san-ge zhongtou le  
1SG wait-PERF 3SG 3 -CL hour PART

I have waited for him three hours.

(54b) 我等他已經有三個鐘頭了  
Wo deng ta yijing you san-ge zhongtou le  
1SG wait 3SG already have 3 -CL hour PART

It has already been three hours that I have been waiting for him.

(54c) 我等他等了三個鐘頭了  
Wo deng ta deng-le san-ge zhongtou le  
1SG wait 3SG wait-PERF 3 -CL hour PART

I have waited for him three hours.

As far as the first point is concerned, I have already shown that in a lot of cases, a corresponding structure with verb copying simply does not exist. Even when there is one, these two structures behave differently with respect to the acceptability of aspect markers (cf. (49) - (52)). This shows that they are two distinct types, even if the meaning of one structure can be deduced from the other by means of a pragmatic conclusion. The ungrammaticality of (53c), however, deserves more attention and will be dealt with at the end of this chapter (cf. 3.2.4.).

Two further arguments against explaining the optionality of verb copying in terms of restructuring are as follows. Whereas yī-běn shū 'a book' in (53a) is a subcategorised argument of the verb sòng 'to give', sān-ge zhōngtóu 'three hours' in (54a), being a complement of duration, is not. Moreover, the direct object tā 'he' of děng 'to wait' cannot undergo the same movement as the indirect object tā 'he' of sòng 'to give':

(55) 我送了一本書給他  
Wo song-le yi-ben shu gei ta  
1SG give-PERF 1 -CL book GEI 3SG

I have given a book to him (as a present).

- (56) \*我等了三個鐘頭給他  
 Wo deng-le san-ge zhongtou gei ta<sup>15</sup>  
 1SG wait-PERF 3 -CL hour GEI 3SG

Contrary to the first set of objections (i.e. lack of verb copying and of a construction with yǒu for double object verbs), these two latter arguments cannot be countered by referring to some additional data. One can only point out that a structure resulting from restructuring is expected not to allow the same transformations as its model structure (the identity of the two structures being possible only under certain conditions). Thus, the objections discussed here miss, in fact, the very notion of restructuring because they demand such a high degree of identity that, if it really existed, it would be better to speak of one structure instead of two. The different accessibility to syntactic transformations is, on the contrary, a means to identify the "real" structure and thereby to distinguish it from the structure "imitating" it (cf. below, ch. 6.1.).

#### 3.2.4. The VOPs and verb copying

Before closing this chapter, let us go back or rather advance towards the VOPs. If verb copying can "save" the structure [<sub>V</sub>[<sub>V</sub> V NP ] Complement ] with respect to the PSC, can it do the same for the structure [<sub>V</sub>[<sub>V</sub> V inner Object ] outer Object ]? As shown in the following sentences, the second verb in a verb copying construction cannot mark the outer object of a VOP (cf.(57a)); it can only be followed by an outer complement (e.g. a complement of duration):

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<sup>15</sup> Given the multiple functions of gěi: full verb 'to give (as a present)', marker of the goal, the benefactive etc. and the fact that its function depends on its position (preverbal vs. postverbal), I only translate gěi if it is the full verb 'to give'. In all the other cases, I simply gloss it as GEI.

- (57a) \*醫生開刀開病人  
 Yisheng kai dao kai bingren  
 doctor open knife open patient
- (57b) 醫生給病人開刀  
 Yisheng gei bingren kai dao  
 doctor GEI patient open knife  
 The doctor operates on the patient.
- (57c) 醫生給病人開刀開了三個鐘頭  
 Yisheng gei bingren kai dao kai -le san-ge zhongtou  
 doctor GEI patient open knife open-PERF 3 -CL hour  
 The doctor has operated on the patient for three hours.

Since the PSC is not violated in (57a), the ungrammaticality of this sentence must be explained otherwise. I would like to claim that the problem involved here is, in fact, the same as in the unacceptability of verb copying for double object verbs (cf. (53c)).

A comparison of the three cases discussed so far (VOPs, double object verbs and other verbs) shows that verb copying is only acceptable if the two NPs occurring with the verb are the inner complement and the outer complement, respectively:

- (58) 他看書看了三個鐘頭  
 Ta kan shu kan -le san-ge zhongtou  
 3SG look book look-PERF 3 -CL hour  
 He has read for three hours.

Verb copying is excluded for double object verbs and pivot verbs because it implies incorrect subcategorisation relations. Thus, the structure of (59a) suggests that there is only one argument, tā 'he', which is subcategorised for by the verb sòng 'to give (as a present)' (yī-běn shū 'a book' being treated as an outer complement), though in fact both NPs, tā and yī-běn shū, are subcategorised arguments, i.e. inner complements:

(59a) \*我送他送了一本书  
 Wo song ta song-le yi-ben shu  
 1SG give 3SG give-PERF 1 -CL book

(59b) 我送了他一本书  
 Wo song-le ta yi-ben shu  
 1SG give-PERF 3SG 1 -CL book

I have given him a book (as a present).

The explanation of the unacceptability of verb copying for VOPs follows more or less the same reasoning. In a structure like (57a), the outer object is treated as an outer complement of the verb in the VOP. However, the outer object is not related to the verb of the VOP, but to the VOP as a whole. This is to say that the outer object is an argument subcategorised for by the entire VOP; accordingly, it represents the inner complement of the VOP, and not the outer complement of the verb (alone).

Perhaps this in fact rather simple explanation does not seem to be very obvious at first, for the actual relations between the verb, the inner object and the outer object are obscured by the fact that the structure proposed for the VOPs looks the same as the structure for verbs with a direct object and a circumstantial complement. But contrary to the latter case where the outer complement is not related by subcategorisation either to the verb or to the direct object, for the VOPs the structure  $[\bar{v}[\bar{v} V \text{ inner Object}] \text{ outer Object}]$  at the same time shows the syntactic hierarchies as well as the relations of subcategorisation. In the same way that the sister of the verb, i.e. the inner object, functions as the inner complement of the verb, the sister of the verb phrase, i.e. the outer object, functions as the inner complement of the verb phrase, the VOP.

This also explains why the VOPs do not appear in the structure of double object verbs  $[\bar{v} V \text{ NP NP}]$  with both NPs as sisters of the verb; the outer object is not a second inner

complement of the verb on a par with the inner object, as this structure implies.

It is now possible to account for the structures discussed so far in which VOPs appear.

The structure  $[\bar{v}[\bar{v} V \text{ inner Object}] \text{ outer Object}]$  correctly indicates the relations of subcategorisation, but violates the PSC. The verb copying construction,  $[\bar{v}[\bar{v} V \text{ inner Obj.}] \bar{v} V \text{ outer Obj.}]$  (cf. above, (57a)) is in harmony with the PSC, but does not respect the actual relations of subcategorisation. The structure  $[\bar{v}[\bar{v}_{pp} \text{ prep outer Object}][\bar{v} V \text{ inner Object}]]$ , where the outer object is marked by a preposition and precedes the VOP (cf. (57b)), on the contrary, takes into account both the PSC and the relations of subcategorisation.

In this chapter, I have introduced the PSC and I have shown how it can explain different syntactic phenomena.

First of all, the PSC only excludes two (or more) postverbal constituents if they are not all subcategorised for by the verb. Double object verbs and pivot verbs thus do not violate the PSC, because their two complements are both inner complements.

When a verb occurs with an inner as well as an outer complement, verb copying applies to avoid a violation of the PSC. The first verb takes the inner complement and the second verb the outer complement. Since only the second verb can be suffixed with aspect markers and be preceded by adverbs and auxiliaries, it is the second  $\bar{v}$  which is the head of the entire VP, as predicted by the PSC.

Verb copying in the presence of a complement of duration or of frequency is optional when the direct object is referential and animate/definite, for with such an object the typical structure of double object verbs (where the verb is followed by an animate and definite NP, the indirect object, and an inanimate NP, the direct object) can be imitated. Being restructured on the model of double object verbs, the structure now satisfies the PSC.

That the structure resulting from restructuring cannot undergo the same syntactic transformations as the real double object construction does not constitute an argument against the postulate of restructuring. On the contrary, this is the expected behaviour, the identity of the model structure and the restructured one depending on particular conditions.

In the case of non-durative verbs, a temporal expression of duration cannot occur in the verb copying construction, but functions as the predicate of a sentential subject containing the (non-durative) verb in question. The temporal expression here indicates the time elapsed since the event, an interpretation which is compatible with non-durative verbs. Verb copying is acceptable, however, with a temporal expression of frequency.

A NP which is an outer complement has to be identified by a verb in the same way as a NP functioning as an inner complement, which explains the necessity of verb copying in the presence of both an inner and an outer complement. The need for a 1:1 relation between a verb and a NP is not valid if the postverbal constituents are all inner complements, and thus identifiable (by the verb) on the basis of the relation of subcategorisation. Consequently, verb copying is excluded here. It is not appropriate, either, to indicate the outer object of a

VOP, for the outer object depends on the entire VOP, and not only on the verb. The outer object must therefore be related to the VOP as a whole.