國立交通大學

外國語文學系

外國文學與語言學碩士班

碩士論文

漢語中的V-多結構

The V-*duo* Construction in Mandarin Chinese

研 究 生：陳美名　　　　　Mei-Ming Chen

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摘要

　　本論文旨在討論漢語中的V-多結構。V-多結構有幾個特性，其中之一是事件的量不能被固定住。本文認為其原因是因為標準的事件的量會隨著語境而有所不同(context-sensitive)。而標準的事件的量之所以會隨著語境而改變跟「多」的語意是有關的。根據Kennedy (2007)提出的隱性比較(implicit comparison)的判斷標準，即簡明判斷(crisp judgments)和差值度量(differential measurements)，以及V-多結構中不能放「比」的這個特性，本文認為V-多結構是隱性比較句。Kennedy (2007)提到隱性比較關涉到原級(positive form)的語意，而原級的語意可假定有程度詞素(degree morpheme) *pos*的存在，而且*pos*會引介隨著語境而改變的標準。此外Liu (2010)認為漢語有*pos*這個不具語音形式的原級詞素(covert positive morpheme)。因此，本文認為V-多結構，作為隱性比較句，帶有 *pos* 這個不具語音形式的原級詞素。因為V-多是複合詞，所以我們認為*pos*在詞彙層次(lexical level)就併入(incorporate into)「多」了。

關鍵詞：V-多結構、隱性比較、不具語音形式的原級詞素

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Student: Mei-Ming Chen   Advisor: Dr. Chen-Sheng Liu

Graduate Institute of Foreign Literatures and Linguistics

National Chiao Tung University

ABSTRACT

This paper discusses several syntactic and semantic characteristics of the V-*duo* construction. One important property of the V-*duo* construction is that the event denoted by the VP cannot be telic, bounded, or quantized. This paper argues that the reason why the event must be atelic (unbounded, cumulative) is attributed to the context dependence property of the standard, which is implied by the semantics of *duo*.

With regard to the preposed object in the V-*duo* construction, I pursue Paul's (2002) proposal that the preposed object is an internal topic rather than a focus, but departing from Paul (2002), I argue that in the V-*duo* construction, multiple topics are allowed in the internal topic position, provided they belong to different types. Since Topic Phrase allows recursion (cf. Gasde & Paul 1996), I suggest that like the external topic, the internal topic in the V-*duo* construction is located in the Spec of TopicP. Movement of a constituent which is interpreted as a Topic is basically driven by feature checking.

Based on the contextually dependent interpretations of *duo*, the diagnostics for implicit

comparison proposed by Kennedy (2007) (i.e., crisp judgments and differential measurements) and the incompatibility with the word *bi*, this paper argues that the V-*duo* construction is an implicit comparison construction. According to Kennedy (2007), implicit comparison involves the semantics of the positive form. One option for the compositional semantics of the positive form, as Kennedy (2007) suggests, is to assume a covert positive morpheme *pos* with a denotation along the lines of (i), where *s* is a context sensitive function that takes a gradable predicate meaning as input and returns a standard of comparison appropriate for the context as output (cf. Cresswell 1977; von Stechow 1984; Kennedy & McNally 2005).

(i) $[[_{\text{Deg}} \, pos]] = \lambda g.\lambda x.g(x) > s(g)$

In addition, according to Liu (2010), Chinese has a covert positive morpheme. Thus, it is not unreasonable for us to assume that the V-*duo* construction, as an implicit comparison construction, contains the covert positive morpheme *pos*, which is merged with or incorporated into the morpheme *duo* at lexical level because V-*duo* is a compound verb. The assumption that the semantics of *duo* is derived by merging *pos* with *duo* or by incorporating *pos* into *duo* at lexical level accounts for why the standard event quantity in the V-*duo* construction is context-sensitive.

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CHAPTER 1

INTRODUCTION

A typical comparative (an EXPLICIT comparative in the sense of Kennedy 2007) involves comparing two entities along some dimension, and the meaning of comparison in a typical comparative is provided by a comparative morpheme. For example, the Chinese *bi* comparative like (1) compares two entities "*Zhangsan*" and "*Lisi*" with regard to the height dimension, and the meaning of comparison in the Chinese *bi* comparative, as Li and Thompson (1981) and Lin (2009) suggest, is provided the word *bi*.[1]

(1) Zhangsan bi   Lisi   gao.

     Zhangsan COM   Lisi   tall

     'Zhangsan is taller than Lisi.'

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[1] Abbreviations used in this paper include: COM: compare, ASP: aspect marker, SFP: sentence final particle, CL_IN: individual classifier, CL_KD: kind classifier, DE: the verbal suffix or the marker for modifying phrases like genitive phrases, relative clauses, and noun complement clauses, HEN: the degree word *hen* used as the overt positive morpheme.

The V-*duo* construction like (2), which means 'the total amount of sleeping by Zhangsan exceeds the contextually determined standard amount of sleep by a significant amount', is different from typical comparatives in the following ways.

(2)　Zhangsan　shui-duo　　LE.[2]

　　　Zhangsan　sleep-much　ASP/SFP

　　　'Zhangsan slept quite a lot.'

First, in a typical comparative such as the Chinese *bi* comparative, the standard of comparison is introduced by the word *bi*; however, in the V-*duo* construction the standard of comparison is neither introduced by specific syntactic categories nor overtly manifested.

Second, a typical comparative like the Chinese *bi* comparative uses the comparative morpheme *bi* to express the ordering relation of superiority; however, the V-*duo* construction cannot co-occur with the word *bi*, as shown by (3).

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[2]　Actually, the function of a postverbal ''*le*'' at the end of the sentence is still controversial. It could be the sentence-final particle *le*, in which cases the sentences must have a *current relevant* meaning. It could be the perfective aspect marker –*le*, in which cases the sentences must have a *perfective* meaning (cf. Li & Thompson 1981). In this paper, I simply regard ''*le*'' at the end of a sentence as ambiguous between the two readings.

(3) *Ni   jiu   bi   Lisi he-duo   LE.

     2SG   wine COM   Lisi drink-much   ASP/SFP

Third, the Chinese *bi* comparative such as (1) is acceptable in context (4), which involves a crisp judgment (i.e., a very slight difference between the compared objects):

(4) Context: Zhangsan is 170 centimeters tall while Lisi is 169 centimeters tall.

In contrast, the V-*duo* construction like (2) is unacceptable in context (5A), which involves a crisp judgment, but acceptable in context (5B), which does not:

(5) Context A: Zhangsan slept for 8 hours and 5 minutes while the normal amount of sleep

     is around 8 hours per night.

     Context B: Zhangsan slept for 14 hours while the normal amount of sleep is around 8

     hours per night.

However, we cannot say that the V-*duo* construction is not a comparative construction just because it differs from typical comparatives significantly. Actually, according to Kennedy (2007), 'comparison' is divided two different modes: explicit and implicit comparison. The

main goal of this paper is to argue that the V-*duo* construction is an atypical comparative construction, or more precisely, an implicit comparison construction.

The linguistic data in this paper was mainly collected from the modern Chinese corpus developed by the Center for Chinese Linguistics (CCL Corpus) at Peking University and Academia Sinica Balanced Corpus of Modern Chinese (Sinica Corpus).

This paper is organized as follows. In chapter 2, several syntactic and semantic properties of the V-*duo* construction will be presented. Chapter 3 argues that the preposed object in the V-*duo* construction serves as an internal topic rather than a focalized element, and that the internal topic occupies the specifier of TopP because multiple internal topics are allowed in the V-*duo* construction. In chapter 4, I will argue that the V-*duo* construction is an implicit comparison construction, and that the meaning of implicit comparison in the V-*duo* construction is provided by the covert positive morpheme *pos*, which is merged with or incorporated into the morpheme *duo* at lexical level. Finally, the conclusion is stated in chapter 5.

CHAPTER 2

THE PROPERTIES OF THE V-DUO CONSTRUCTION

In this chapter, I will discuss the syntactic and semantic characteristics of the V-*duo* construction.

2.1 V-*duo* as a Resultative Verb Compound or a Verb-Complement Compound

The most straightforward evidence in support of the view that V-*duo* is a compound verb comes from (6):

(6) a.   Wo   zai   zhe-zhong   changhe   he-duo-guo   san   ci.

I   on   this-CL_KD   occasion   drink-much-ASP   three   time

'On an occasion of this kind, I have drunk quite a lot three times.'

   b.   *Wo   zai   zhe-zhong   changhe   he-guo-duo   san   ci.

I   on   this-CL_KD   occasion   drink-ASP-much   three   time

As we can see from (6b), the experiential aspect marker –*guo* can not be inserted between V and *duo*. That the experiential aspect marker –*guo* must attach to V-*duo* suggests that V-*duo* is

a compound verb.

It should be noted that we cannot say that in (6a) -*guo* is attached to *duo*. This is evidenced by the contrast between (6a) and (7).

(7)   Wo   de   qian   gang-gang-hao   duo-guo1   ta   liang-mao.

       I   DE   money   just   more-guo1   3SG   two   cent

       'The amount of my money just exceeds that of his money by two cents.'

(7) is an instance of the X A-*guo1* Y (D) comparative, where the verbal suffix -*guo1* means 'exceed' or 'surpass' (cf. Liu 2007). The X A-*guo1* Y (D) comparative is a construction that involves explicit comparison, as evidenced by the acceptability of crisp judgments (i.e., very slight differences between the compared objects) which, as Kennedy (2007) argues, is the defining criterion of an explicit comparative, as (7) shows. In contrast, the V-*duo* construction such as (6a) involves implicit comparison because it is not acceptable in contexts involving crisp judgments (this will be argued in section 4.3). Thus, the difference between (6a) and (7) leads us to claim that –*guo* is attached to the compound verb V-*duo* rather than the morpheme *duo*.

Although the –*guo* insertion test indicates that V-*duo* is a compound verb, a more fine-grained categorization is required. Compound verbs can be classified into five main types:

subject-predicate compounds, verb-object compounds, parallel verb compounds, modifier-head compounds, and verb-complement compounds. So which type is V-*duo*? The first two types, the subject-predicate and the verb-object compounds, are ruled out. The reason is that neither V nor *duo* is a noun morpheme. The possibility that V-*duo* is a parallel verb compound is also ruled out. According to Li and Thompson (1981), the two verbs that constitute a parallel verb compound should either be synonymous or signal the same type of predicative notions. However, this is not the case for V-*duo*. The remaining candidates are modifier-head and verb-complement compounds. The modifier-head compound (manner-head), as its name suggests, is composed of two elements, whose relation is one in which the first element *stative* modifies the second element *head* and reveals the manner in which the action is performed. This is not the case for V-*duo* because V does not server as a modifier and does not reveal the manner. The only candidate is the verb-complement compound (or resultative verb compound). This will predict that *duo* is the complement while the preceding verb is the head. According to Li and Thompson (1981), the *resultative verb compound*, or *RVC*, is composed of two elements and the second element signals some *result* of the action or process conveyed by the first element. The assumption that V-*duo* is a verb-complement compound verb or a resultative verb compound is plausible because of the following reasons. First, according to Li and Thompson (1981) and Packard (2000), RVCs can occur in the *potential* form. The potential form of an RVC involves the insertion of *-de-* 'able

to' or *-bu-* 'not able to' between the two constituents. As seen in (8a-b), the 'potential infix' operation can be performed on the compound verb V-*duo*.

(8) a. Wo jiu he-de-duo.

        I wine drink-able-much

        'I'm able to drink quite a lot.'

    b. Wo jiu he-bu-duo.

        I wine drink-unable-much

        'I'm unable to drink quite a lot.'

The second characteristic of the RVC, as Li and Thompson (1981) suggests, is that unlike most action verbs in Mandarin, which can be reduplicated to indicate delimitative aspect, RVCs cannot be reduplicated. For example, we have *chang-chang* 'have a taste', but reduplicated V-*duo* is unacceptable: **he-duo—he-duo* 'drink-much—drink-much'. This suggests that V-*duo* is an RVC.

In view of the above arguments, it is reasonable to analyze V-*duo* as a resultative verb compound or a verb-complement compound verb. The argument structure of V-*duo* is derived from the independent argument structure of the head V. For example, *he* 'drink' is a transitive verb, which has two arguments and assigns two theta roles (AGENT and THEME). When *he*

'drink' combines with *duo* to form a verb-complement compound verb, *he-duo* 'drink-much' is still a two-place predicate. In other words, *he-duo* 'drink-much' is still a transitive verb, as shown in (9).

(9) Ni   he-duo-le   jiu.

2SG   drink-much-ASP   wine

'You drank wine quite a lot.'

2.2 The Incompatibility of *Duo* with Individual-level Verbs

The morpheme *duo* is compatible with stage-level verbs but incompatible with individual-level verbs, as shown by the contrast below:

(10) a.   Ni   jiu   he-duo   LE.   (stage-level verbs)

2SG   wine   drink-much   ASP/SFP

'You drank wine a lot.'

b.   Ni   pao-duo   LE

2SG   run-much   ASP/SFP

'You ran quite a lot.'

c.   Men   kai-duo   LE

door   open-much   ASP/SFP

'The door opened quite a lot.'

d.   Yu   <u>xia</u>-duo   LE.

rain fall-much   ASP/SFP

'It rained quite a lot.'

(11)   a.   *Ni   gou   xihuan-duo   LE.   (individual-level verbs)

2SG   dog   like-much   ASP/SFP

b.   *Ni   zhe-zhong   shi   zhidao-duo   LE.

2SG   this-CL_KD   thing   know-much   ASP/SFP

That some state verbs like *xiang* 'think' and *kaolü* 'consider' can be combined with *duo* appears to be counterexamples to our assumption that *duo* is normally incompatible with individual-level predicates. I will show that the examples in (12) do not contradict, but rather reinforce our assumption.

(12)   a.   Ni   xiang-duo   LE.

2SG   think-much   ASP/SFP

'You think too much.'

10

b. Ni   kaolü-duo   LE.

2SG   consider-much   ASP/SFP

'You think too much.'

Carlson (1977) argues that (most) individual-level predicates are stative, i.e., permanent states, and that most stage-level predicates are nonstative (or dynamic), but not all of them are, e.g. temporary states. Following Carlson (1977), we argue that there are indeed two types of states, namely, individual-level states and stage-level states. One of the linguistic tests that has been extensively adopted to distinguish stage- from individual-level predicates is the progressive test proposed by Vendler (1967). State verbs are normally incompatible with the progressive, as shown in (13b):

(13)   a.   She was running.

b.   *She was knowing the answer.

In Chinese the progressive aspect marker is *zai*. The verbs *xiang* 'think' and *kaolü* 'consider' can take the progressive *zai* and are thus judged as stage-level state verbs. Stage-level state verbs such as *xiang* 'think' and *kaolü* 'consider' denote stative situations, which are ''more event-like', so *xiang* 'think' and *kaolü* 'consider' are compatible with *duo*.

2.3   The Morpheme *Duo* Modifying the Quantity of Events

At a superficial level, the morpheme *duo* appears to modify the quantity of internal

arguments, as shown by (14).

(14) a.   Ni   jiu   he-duo   LE.

          2SG   wine   drink-much   ASP/SFP

          'You drank wine quite a lot.'

      b.   Ni   tianshi   chi-duo   LE.

          2SG   sweet food   eat-much   ASP/SFP

          'You ate sweet food quite a lot.'

      c.   Ni   huazhuangpin   mai-duo   LE.

          2SG   cosmetics   buy-much   ASP/SFP

          'You bought cosmetic products quite a lot.'

      d.   Ni   zhe-pen   hua   shui   jiao-duo   LE.

          2SG   this-CL   flower   water   pour-much   ASP/SFP

          'You watered this flower quite a lot.'

However, there are cases in which the morpheme *duo* does not or cannot modify the

quantity of internal arguments, as illustrated by (15-16) and (17-18), respectively.

(15) a.　　Ni　gaogenxie　　　　chuan-duo　　LE.

　　　　2SG　high-heeled shoes　wear-much　　ASP/SFP

　　　'You wore high-heeled shoes quite a lot.'

　　 b.　Ni　yedian　　qu-duo　　LE

　　　　2SG　nightclub　go-much　　ASP/SFP

　　　'You went to nightclubs quite a lot.'

(16) a.　Ni　men　　qiao-duo　　　LE.

　　　　2SG　door　　knock-much　　ASP/SFP

　　　'You knocked the door quite a lot.'

　　 b.　Men　kai-duo　　　　LE

　　　　door　　open-much　　ASP/SFP

　　　'The door opened quite a lot.'

(17) a.　Ni　dianshi　kan-duo　　　LE.

　　　　2SG　TV　　watch-much　　ASP/SFP

　　　'You watched TV quite a lot.'

b. Ni   lanqiu   da-duo   LE.

2SG   basketball   play-much   ASP/SFP

'You played basketball quite a lot.'

(18)   Ni   Xianggang   qu-duo   LE.

2SG   Hong Kong   go-much   ASP/SFP

'You went to Hong Kong quite a lot.'

In (15) the morpheme *duo* does not modify the quantity of internal arguments because the

internal argument of V-*duo* in each sentence can undergo the event more than once. In (15a) a

pair of high-heeled shoes can be worn more than once, and in (15b) one can go to the same

nightclub more than once. In (16) the morpheme *duo* does not modify the quantity of internal

arguments because the internal argument in each sentence can undergo the event repeatedly.[3,4]

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[3] Following Van Valin (1990) and Huang (2007), I regard verbs like *kai* 'open', which Haegeman (1991) labels

ergatives, as unaccusatives. At D-structure *men* 'door' in (16b) is the internal argument of *kai-duo* 'open-much'.

[4] Sentence (16b) means that a certain door opened too many times. To mean that too many doors opened, we

can use sentence (i):

(i) Men   kai   tai   duo   LE.

door   open   too   many   ASP/SFP

'Too many doors opened.'

In (17) the morpheme *duo* cannot modify the quantity of internal arguments because the quantity of the internal argument in each sentence cannot be measured. In (17a) the internal argument *dianshi* 'television' actually denotes ''a TV show/program'' rather than the concrete TV set. In (17b) the internal argument *lanqiu* 'basketball' actually denotes ''a basketball game'' rather than the physically round-shaped basketball. In (18) the morpheme *duo* cannot modify the quantity of the internal argument because the internal argument *xianggang* 'Hong Kong' is a proper noun referring to a unique entity.

Given these facts, I suggest that the morpheme *duo* in the V-*duo* construction, in general, modifies the quantity of events (or VPs). Under normal circumstances, the quantity of internal arguments will increase with that of events indirectly, as shown by (14) above. The proposal that the morpheme *duo*, in general, modifies the quantity of events (VPs) provides a unified account. As to what *duo* evaluates, we postulate that *duo* can evaluate either the frequency or the duration of events. Basically, what *duo* evaluates is primarily determined by pragmatic factors.

2.4   The Unacceptability of Telic (Bounded, Quantized) Events

In the previous section, it is argued that *duo*, in general, modifies the quantity of events (VPs). In this section, it will be shown that the events modified by the morpheme *duo* must be atelic, unbounded or cumulative.

As the first step in the discussion, I shall introduce the mass/ count distinction as a way to bring us deep into the discussion. The example in (19) illustrates the interaction between quantifying expressions and the mass/count distinction in the nominal system. Whereas *much* selects a mass noun (*bread*), *many* combines with a count plural (*sandwiches*):

(19) a. John eats too much bread/*sandwiches for breakfast.

      b. John eats too many sandwiches/*sandwich/*bread for breakfast.

Count plurals and mass nouns have a lot in common. The core of their resemblance is the cumulative reference property. *Many* is incompatible with quantized forms: **many six students* is ungrammatical. The mass/count distinction for nominals has often been compared to aspectual differences in the verbal domain. Atelic or unbounded verbs, such as *to run*, are compared to mass nouns, and telic or bounded predicates, such as *to run into the house*, are compared to count nouns (cf. Doetjes 1997).

Situation types in Chinese, as Smith (1991) suggests, are generally distinguished as States, Activities, Accomplishments, Semelfactives, and Achievements in terms of how they differ from each other in the temporal properties of dynamism, durativity, and telicity, as summarized in (20):

(20)   Basic situation types
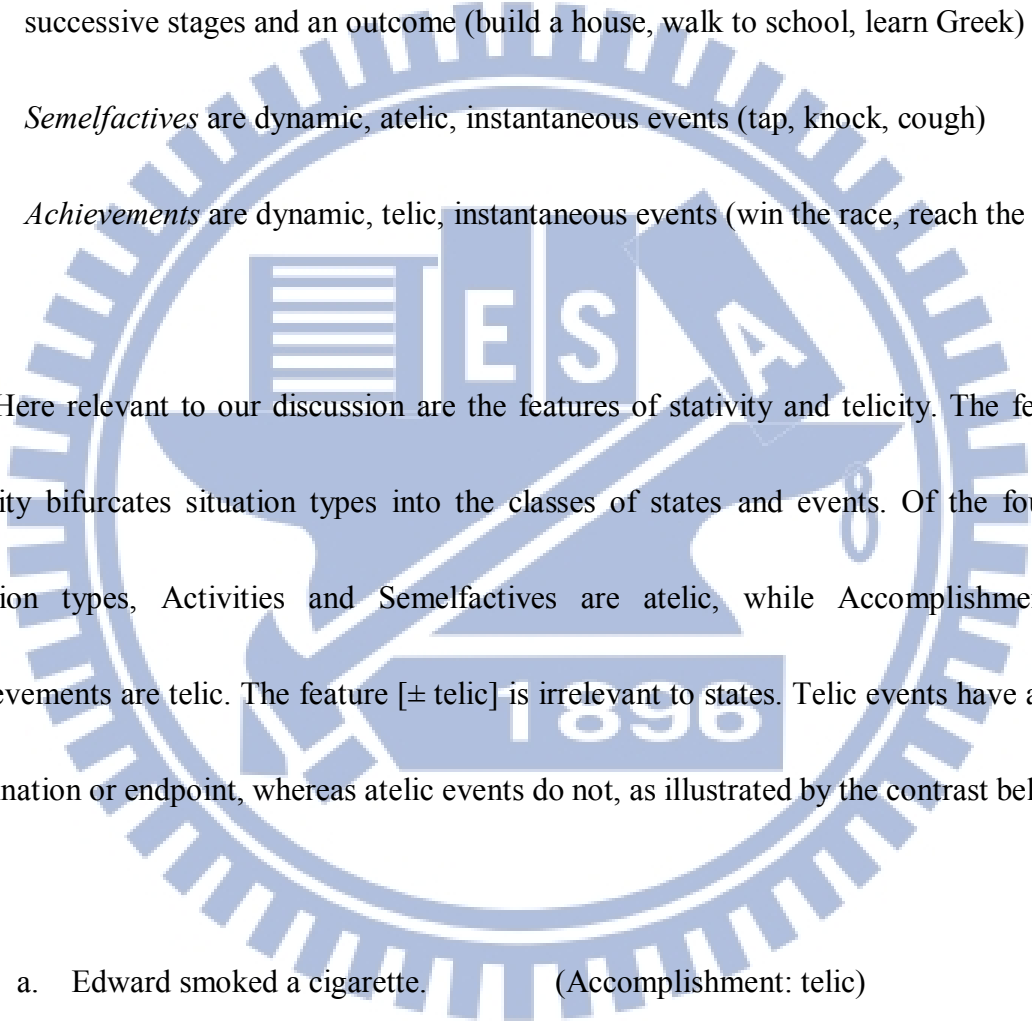
States are static, durative (know the answer, love Mary)

Activities are dynamic, durative, atelic events (laugh, stroll in the park)

Accomplishments are dynamic, durative, telic events consisting of a process with

successive stages and an outcome (build a house, walk to school, learn Greek)

Semelfactives are dynamic, atelic, instantaneous events (tap, knock, cough)

Achievements are dynamic, telic, instantaneous events (win the race, reach the top)

Here relevant to our discussion are the features of stativity and telicity. The feature of

stativity bifurcates situation types into the classes of states and events. Of the four event

situation types, Activities and Semelfactives are atelic, while Accomplishments and

Achievements are telic. The feature [± telic] is irrelevant to states. Telic events have a natural

culmination or endpoint, whereas atelic events do not, as illustrated by the contrast below.

(21)   a.   Edward smoked a cigarette.   (Accomplishment: telic)

       b.   Edward smoked cigarettes.   (Activity: atelic)

(Smith 1991: 6)

The event depicted by (21a) is telic. The end point is specified and corresponds to the moment

the cigarette was finished. In (21b) smoking cigarettes is an atelic event that may continue indefinitely and has no such clear final point. Verkuyl (1972) argues that the situation type of a sentence is determined by a verb and its associated arguments. Doetjes (1997) also argues that the reference properties of the internal argument (quantized or cumulative) determine the boundedness properties of the VP. This phenomenon has been called *measuring out* by Tenny (1987, 1994). The examples in (21) show that depending on the form of the internal argument, the event is understood as atelic or telic. In the context of the bare plural *cigarettes*, which has cumulative (unbounded) reference, the event is atelic. In the presence of the quantized (bounded) form *a cigarette*, the event is telic. While internal arguments typically affect the situation type, the question of whether or not external arguments also contribute to the situation type is controversial. Dowty (1979) and Verkuyl (1972, 1993) claim that the external arguments have the same effect on the situation type as internal arguments, whereas Tenny (1994) and Doetjes (1997) argue that they do not. As Doetjes (1997) points out, *they ran a lot* does not imply that there were many people who ran, but that there was a lot of running taking place. Following Tenny (1994) and Doetjes (1997), I assume that in the V-*duo* construction external arguments do not play a role in determining the telicity (boundedness) properties of the events.

Now let us return to the V-*duo* construction. The V-*duo* construction is ungrammatical when the event denoted by the VP is telic, bounded, or quantized:

(22) a. Ni   shui-duo   LE.   (Activity: atelic)

        2SG   sleep-much   ASP/SFP

        'You slept quite a lot.'

      b. Ni   jiu   he-duo   LE.

        2SG   wine   drink-much ASP/SFP

        'You drank wine quite a lot.'

      c. Ni   zhe-zhong   jiu   he-duo   LE.

        2SG   this-CL_KD   wine   drink-much   ASP/SFP

        'You drank this kind of wine quite a lot.'

(23) a. Ni   ke-duo   LE.   (Semelfactive: atelic)

        2SG   cough-much   ASP/SFP

        'You coughed quite a lot.'

      b. Ni   men   qiao-duo   LE.

        2SG   door   knock-much ASP/SFP

        'You knocked the door quite a lot.'

(24) a. *Ni   zhe-ping   jiu   he-duo   LE.   (Accomplishment: telic)

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2SG　　this-CL_IN　　wine　drink-much　ASP/SFP

　　b.　*Zhe-kuai　bingkuai　rong-duo　　LE.

　　　　this-CL_IN　ice　　　　melt-much　ASP/SFP

(25)　　*Zhe-ge　　　ren　si-duo　　　　LE.　　　　　　　　(Achievement: telic)

　　　this-CL_IN　　man　die-much　　ASP/SFP

When the situation types are activities and semelfactives, which are atelic events, the V-*duo*

construction is grammatical, as in (22-23). When the situation types are accomplishments and

achievements, which are telic events, the V-*duo* construction is ungrammatical, as in (24-25).

　　It should be noted that there are three main classes of Activities (cf. Smith 1991). One

class involves an ongoing process that is unlimited in principle such as [the child sleep],

[laugh]. Other Activities have uncountable internal stages [eat cherries]. There are also

derived Activities, which are *iterative*, *repetitive*, or *cyclic* events. Repetitions of

Semelfactives, Accomplishments, and Achievements may occur in derived Activities, e.g.

[Mary coughed for five minutes], [John found crabgrass in his yard all summer]. In other

words, Semelfactives, Accomplishments, and Achievements may occur in an unbounded

series as a multiple event. Therefore, if an appropriate context is provided, the situation type

denoted by the V-*duo* construction can be a derived multiple-event Activity, consisting of a

series of repeated Semelfactive, Accomplishment, or Achievement events, as shown by (26-28), respectively.

(26) a. Ni   ke-duo   LE.   (derived Activity: atelic)

2SG   cough-much   ASP/SFP

'You coughed quite a lot.'

b. Ni   men   qiao-duo   LE.

2SG   door   knock-much   ASP/SFP

'You knocked the door quite a lot.'

(27) a. Ni   zhe-jian   jifu   chuan-duo   LE.   (derived Activity: atelic)

2SG   this-CL_IN   clothes   wear-much   ASP/SFP

'You wore this piece of clothing quite a lot.'

b. Ni   zhe-bu   dianying   kan-duo   LE.

2SG   this-CL_IN   movie   watch-duo   ASP/SFP

'You watched this movie quite a lot.'

c. Wo   zhe-xie   hua   ting-duo   LE.

I   these   word   hear-much   ASP/SFP

'I heard these words quite a lot.'

d. Ni   zhe-ze   xiaohua shuo-duo   LE.

   2SG   this-CL_IN   joke   tell-much   ASP/SFP

   'You told this joke quite a lot.'

e. Men   kai-duo   LE.

   door   open-much   ASP/SFP

   'The door opened quite a lot.'

f. Xue   rong-duo   LE.

   snow   melt-much   ASP/SFP

   'Too much snow melted.'

(28) a. Nadal   Fawang   ying-duo   LE.   (derived Activity: atelic)

        Nadal   French Open   win-much   ASP/SFP

        'Nadal won the French Open quite a lot.'

     b. Keren   lai-duo   LE.

        guest   come-much   ASP/SFP

        'Here came too many guests.'

     c. Ren   qu-duo   LE.

        person   go-much   ASP/SFP

        'Too many people went there.'

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d. Shibing   si-duo   LE.

   soldier   die-much   ASP/SFP

'Too many soldiers died.'

e. Zhe-zhong   qingkuang   fasheng-duo   LE.

   this-CL_KD   situation   happen-much   ASP/SFP

'This kind of situation happened quite a lot.'

f. Zhe-zhong   qingkuang   chuxian-duo   LE.

   this-CL_KD   situation   occur-much   ASP/SFP

'This kind of situation occurred quite a lot.'

The internal arguments in (26-28) include bare NPs (27f, 28b-d), kind NPs (28e-f), proper

names (28a) and NPs which can undergo the event repeatedly (26b, 27a-e). In the context of

bare NPs and kind NPs, which have cumulative (unbounded) reference, the events are atelic

(unbounded). In (26b, 27a-e) and (28a) the events are atelic (unbounded) because the singular

event can be iterated. It should be noted that following Van Valin (1990) and Huang (2007), I

regard verbs like *kai* 'open' and *ronghua* 'melt', which Haegeman (1991) labels ergatives, as

unaccusatives. Hence, at D-structure *men* 'door' in (27e) and *xue* 'snow' in (27f) are the

internal arguments of *kai-duo* 'open-much' and *ronghua-duo* 'melt-much' respectively.

To conclude, in the V-*duo* construction the event denoted by the VP must be atelic,

unbounded, or cumulative. In other words, the V-*duo* construction must present an Activity or

a derived multiple-event Activity. In the V-*duo* construction the internal arguments cannot be

quantized or the internal arguments can undergo the event more than once. As to the verbs,

individual-level predicates, i.e., permanent state verbs, cannot be combined with *duo*. Verbs

that can be combined with *duo* are stage-level predicates, most of which are activity verbs.

The reason is that individual-level predicates do not contain an event argument, while

stage-level predicated do (cf. Kratzer 1989). Since the morpheme *duo* modifies the quantity of

events, the presence of an event argument is obligatory. Thus, that individual-level predicates

cannot be combined with *duo* is due to the lack of an event argument.

2.5   The Context Sensitivity of the Standard

Before going into the details, I shall introduce what a context sensitive standard is. For

example, (29) could be judged true if asserted in Indonesia, where the average height of males

is 158 centimeters, as in (30a), but false in Netherlands, where the average height of males is

184.8 centimeters, as in (30b).[5]

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[5]   The source of this information is the website Disabled-World.

(http://www.disabled-world.com/artman/publish/height-chart.shtml)

(29)　Zhangsan　hen　gao.

Zhangsan　HEN　tall

'Zhangsan is tall.'

(30)　a.　Zhangsan is 175 centimeters while the average male height in Indonesia is 158 centimeters.

b.　Zhangsan is 175 centimeters while the average male height in Netherlands is 184.8 centimeters.

Now let us return to the V-*duo* construction. We assume that the reason why the events in the V-*duo* construction must be atelic (unbounded, cumulative) is attributed to the context dependence property of the standard. For instance, the capacity for liquor varies with people. Some people can drink ten bottles of wine without getting drunk, while some people will get drunk with only a small glass of wine. Even for the same person, the capacity for liquor may vary on different days depending on the physical condition on that day. If the event quantity provided by the V-*duo* construction is bounded, the sentence will fail to cover all possibilities, as the ungrammaticality of (31) shows. We assume that the reason why the standard event quantity is context-sensitive is related to the semantics of *duo*.

(31) *Ni   zhe-ping   jiu   he-duo   LE.

      2SG   this-CL_IN   wine   drink-much ASP/SFP

All in all, the syntactic and semantic characteristics shown by the V-*duo* construction can be briefly summarized as follows: (A) V-*duo* is a verb-complement compound verb and the argument structure of V-*duo* is derived from the independent argument structure of the head V. (B) The morpheme *duo* is compatible with stage-level verbs but incompatible with individual-level verbs. (C) The morpheme *duo*, in general, modifies the quantity of events. To be more specific, *duo* can evaluate either the frequency or the duration of events. Basically, what *duo* evaluates is primarily determined by pragmatic factors. (D) The events modified by the morpheme *duo* must be atelic, unbounded or cumulative. (E) The semantics of *duo* implies that the standard event quantity is context-sensitive.

These syntactic and semantic properties shown by the V-*duo* construction bring us the following questions that this paper has to deal with. First, what is the preverbal NP in the V-*duo* construction? Second, is the V-*duo* construction a comparative construction? Third, what is the semantics of *duo*?

CHAPTER 3

THE SYNTACTIC ANALYSIS OF THE V-DUO CONSTRUCTION

The preverbal NP in the V-*duo* construction is a preposed object because there exists

postverbal position the preverbal NP could have originated from by movement:

(32) a. Ni   jiu   he-duo   LE.

    2SG   wine   drink-much   ASP/SFP

    'You drank wine quite a lot.'

   b. Ni   he-duo-le   jiu.

    2SG   drink-much-ASP   wine

    'You drank wine quite a lot.'

In the literature, there are two major proposals for the objects preposed to the

post-subject/pre-verb position. Some linguists consider the preposed object an internal topic,

as opposed to the external topic (e.g. Paul 2002). Differently, some linguists regard the

preposed object as a focus, based on the contrastive interpretation conveyed by the

sentence-internal element (e.g. Shyu 1995). In this section, we will show that the preposed

object in the V-*duo* construction does not serve as a focus but as an internal topic.

3.1 Against the Preposed Object as a Focus

At first glance, the preposed object in the V-*duo* construction appears to be a focalized element because it can be used contrastively, as shown by (33).

(33) Ni   rou   chi-duo   LE,   danshi cai   chi-shao   LE.

2SG meat eat-much ASP/SFP   but   vegetables   eat-little   ASP/SFP

'You ate too much meat, but ate too little vegetables.'

However, I adhere to Paul's (2002) claim that an element used contrastively does not automatically qualify as a focus. Topics can be used contrastively, too. The following discussion will provide evidence against the focus status of the preposed object in the V-*duo* construction.

3.1.1 Object Preposing vs. the *Lian…Ye/Dou* Construction

Shyu (1995) argues that the preposed object in (34) is a focus, just like the one in (35). The only difference between the two examples is whether the *lian…dou/ye* focus marker is overt or covert.

(34)   Geruisen [NP zhe-ben shu]ᵢ kan-wan-le   tᵢ.

Grissom   this-CL book   read-finish-ASP

'Grissom finished reading this book.'

(35)   Geruisen **lian**   [NP zhe-ben shu] **dou/ye**   kan-wan-le.

Grissom   even   this-CL book   all/also   read-finish-ASP

'Grissom even/also finished reading this book.'

However, Paul (2002) argues that "bare" object preposing has to be distinguished from the

obligatory preverbal position of the focalized object in the *lian…ye/dou* 'even' construction

both on semantic and syntactic grounds. Adopting Paul's arguments, I will argue that "bare"

object preposing in the V-*duo* construction and the *lian…ye/dou* 'even' construction are two

separate constructions with distinct semantic and syntactic properties.

First of all, the semantics of "bare" object preposing in the V-*duo* construction is

completely different from that of the *lian*-construction, as shown by the contrast between (36)

and (37). The word *lian* conveys a feature of polarity which implies the least degree of

possibility. In addition, the *lian…ye/dou* construction gives rise to an 'even' interpretation for

the element quantified over by *lian…ye/dou*, where the speaker presupposes that there exist

some other elements which hold the same property as that attributed to the quantified element

(Paul 2002:698, cited from Paris 1998:144). However, both properties are not shown in (36).

(36) Ni   tianshi_i   chi-duo-le   t_i.

      2SG   sweet food   eat-much-ASP

      'You ate sweet food quite a lot.'

(37) Ni   lian   gourou   ye/dou   chi-duo-le.

      2SG   even   dogmeat   also/all   eat-much-ASP

      'You even ate dog meat quite a lot.'

Second, this semantic difference is reflected in the different question patterns available.

To be precise, in the *lian…ye/dou* construction the VP itself, being presupposed, cannot be

questioned and accordingly, an A-not-A question is ruled out. A particle question where the

question operator can have scope over the entire sentence is however acceptable (Paul

2002:698, cited from Paris 1998:142):

(38) a. *Zhangsan   lian   gourou   ye/dou   shi-bu-shi chi-duo-le?

          Zhangsan   even   dogmeat   also/all be NEG be eat-much-ASP

b.　Zhangsan lian　gourou　ye/dou　chi-duo-le　　　ma?

Zhangsan even　dogmeat　also/all　eat-much-ASP　　PART

'Did Zhangsan even eat dog meat quite a lot?'

However, an A-not-A question is acceptable in "bare" object preposing in the V-*duo* construction, as shown in (39). This would be exclude if the preverbal NP in the relevant construction were really a focus, because then the VP would constitute the presupposed part.

(39)　Zhangsan　tianshi$_i$　　shi-bu-shi　chi-duo-le　　　　　t$_i$?

Zhangsan　sweet food　be NEG be　eat-much-ASP

'Did Zhangsan eat sweet food quite a lot?'

Third, there is a constraint which holds for the preposed object: personal names and pronouns cannot be preposed (cf. Hou 1979). However, this restriction does not hold for the object in the *lian…ye/dou* construction. This contrast is shown in (40a-b) and (41a-b).

(40)　a. *Ta　Xiaoming$_i$　ma-duo-le　　　　t$_i$.

3SG　Xiaoming　scold-much-ASP

(intended meaning: 'He scolded Xiaoming quite a lot.')

b. Ta   lian Xiaoming ye/dou   ma-duo-le.

3SG   even   Xiaomig   also/all   scold-much-ASP

'He even scolded Xiaoming quite a lot.'

(41)   a. *Ta   wo$_i$ ma-duo-le   t$_i$.

3SG   I   scold-much-ASP

(intended meaning: 'He scolded me quite a lot.')

b. Ta   lian   wo   ye/dou   ma-duo-le.

3SG   even   I   also/all   scold-much-ASP

'He even scolded me quite a lot.'

Based on the semantic and syntactic properties, there are obvious discrepancies between object preposing in the V-*duo* construction and the *lian…ye/dou* construction.

3.1.2 Object Preposing vs. the *Shi…De* Focus Clefts

In this section, I will show that the V-*duo* construction does not involve any focalization at all by comparing object preposing in the V-*duo* construction with the *shi…de* focus cleft construction.

First, no bipartition into focus (the preposed object) and presupposition (the VP) exists

for the V-*duo* construction. Accordingly, the VP itself can be questioned, as illustrated by (42).

(42) Zhangsan tianshi   shi-bu-shi   chi-duo   LE?

      Zhangsan sweet food   SHI NEG SHI   eat-much   ASP/SFP

      'Was it true that Zhangsan ate sweet food quite a lot?'

The presence of the A-*bu*-A question indicates that it is the VP that is questioned here. This would be excluded if the preposed object were really a focus, because then the VP would constitute the presupposed part.

Second, the lack of a bipartition into focus vs. presupposition can be further illustrated by the possibility of object preposing in list contexts:

(43) Ni   jiu   he-duo   LE,   tianshi   chi-duo   LE,

      2SG wine drink-much ASP/SFP   sweet food eat-much   ASP/SFP

      dianshi ye   kan-duo   LE.

      TV   also watch-much   ASP/SFP

      'You drank wine quite a lot, ate sweet food quite a lot and also watched TV quite a lot.'

Since it implies the non-existence of any other element satisfying the property in question

Paul 2002:702, cited from Paris 1998:144), to focalize an element is exactly the opposite of listing.

Third, the preposed object in the V-*duo* construction cannot be clefted by means of *shi …de*, which would, however, be expected if it really were a focus:

(44) a. Ni   jiu   he-duo   LE.

2SG   wine   drink-much   ASP/SFP

'You drank wine quite a lot.'

b. *Ni   shi   jiu   he-duo   de.

2SG   SHI   wine   drink-much   DE

3.1.3 Tests of Exhaustive Identification

Focus can be further divided into two types: IDENTIFICATIONAL FOCUS and INFORMATION FOCUS (cf. Kiss 1988). Kiss claims that IDENTIFICATIONAL FOCUS (or contrastive focus), which performs exhaustive identification on a set of entities given in the context or situation, must be distinguished from INFORMATION FOCUS, which simply marks new information. IDENTIFICATIONAL FOCUS is a function of structural focus: of the immediately preverbal focus in Hungarian, and of the cleft construction in English. By contrast, INFORMATION FOCUS is a function of constituents marked by pitch accents. Tsai

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(2004) uses two criteria of exhaustive identification (cf. Kiss 1988), coordination and

negation tests, to test whether or not *zhi-* and *lian-*constructions involve a contrastive focus.

Following examples illustrate how the two tests work in *zhi-*construction.

(45)   Coordination test: The sentence cannot entail any one of the conjuncts.

   Context: red wine, white wine, yellow wine, beer

   a. A-kiu zhi he   hong jiu   han bai jiu.

   A-kiu   only drink red wine   and white wine

   'A-kiu only drinks red wine and white wine.'

—X→ b. A-kiu zhi   he   hong   jiu.

   A-kiu   only drink red wine

   'A-kiu only drinks red wine.'

—X→ c. A-kiu zhi   he   bai   jiu.

   A-kiu   only drink white wine

   'A-kiu only drinks white wine.'

(46) Negation test: A negative reply is allowed.

   A: A-kiu zhi he   hong jiu.

   A-kiu   only drink red wine

'A-kiu only drinks red wine'

B: Bu, A-kiu ye he bai jiu.

NEG A-kiu also drink white wine

'No, he also drinks white wine.'

Zhi-construction passes the coordination test because (45a) cannot entail (45b) or (45c). It also passes the negation test because a negative reply is allowed, as in (46). *Zhi*-construction passes two tests of exhaustive identification; therefore, it involves a contrastive focus.

So it is expected that the V-*duo* construction, if it involves a contrastive focus, will pass both the coordination and negation tests. However, this expectation is not borne out, as illustrated by (47) and (48).

(47) Coordination test:

Context: coffee, tea, cola

a. Zhangsan kafei han cha he-duo LE.

Zhangsan coffee and tea drink-much ASP/SFP

'Zhangsan drank coffee and tea quite a lot.'

→b. Zhangsan kafei he-duo LE.

Zhangsan coffee drink-much ASP/SFP

'Zhangsan drank coffee quite a lot.'

→c. Zhangsan   cha   he-duo   LE.

Zhangsan   tea   drink-much   ASP/SFP

'Zhangsan drank tea quite a lot.'

(48)   Negation test:

A: Zhangsan   kafei   he-duo   LE.

Zhangsan   coffee   drink-much   ASP/SFP

'Zhangsan drank coffee quite a lot.'

B: %Bu，Zhangsan   cha   ye   he-duo   LE.

no   zhangsan   tea   also   drink-much   ASP/SFP

'No, Zhangsan also drank tea quite a lot.'

(47a) entails both (47b) and (47c); therefore, the V-*duo* construction does not pass the coordination test. It does not pass the negation test, either. We are not sure whether (48A) excludes other elements in the context. It is possible that Zhangsan also drank tea quite a lot. Hence, a negative response is improper. Consequently, the V-*duo* construction expresses no exhaustive identification. It indicates that the V-*duo* construction does not involve a contrastive focus.

Based on Paul's arguments and the results from the coordination and negation tests, I claim that the preposed object in the V-*duo* construction is not a focalized element.

3.2   The Preposed Object as an Internal Topic

Paul (2002) argues that the preposed object is an internal topic, and that the internal topic occupies the specifier position of a functional projection below the subject and above *v*P. This functional projection FP, as Paul (2002) suggests, hosts the sentence-internal topic and is different from the Focus Phrase postulated for the *lian…ye/dou* construction (cf. e.g. Shyu (1995)). According to Paul (2002), the internal topic resembles the external topic with respect to the existence of both movement and base-generation as derivational possibilities, as shown by (49) and (50).

(49)   Wo   [mingtian-de richeng]$_i$ anpai-hao-le   t$_i$.

I   tomorrow-SUB program   plan-finish-ASP

'I have fixed tomorrow's program.'

(50)   Ta   nei-jian shi   hai mei   zuo   jueding   ne.

3SG   that-CL   matter   still   NEG   make decision   PART

'He has not yet come to a decision concerning that matter.'

However, the internal topic position is different from the external topic position in that multiple topics are excluded from the internal topic position, as shown by the contrast between (51) and (52).

(51)   Hua,   meiguihua,   ta   zui   xihuan

        flower   rose   3SG   most   like

        'Flowers, roses he likes them best.'

(52)   *Ni   [huiyuan dahui]   [mingtian-de richeng]   anpai-hao-le   meiyou?

        2SG member meeting   tomorrow-SUB program   plan-finish-ASP   NEG

                                                            (Paul 2002: 710; (42), (43))

Paul (2002) argues that this major difference between the external and the internal topic position reflect the different nature of the functional categories involved because Topic Phrase allows recursion (cf. Gasde & Paul 1996).

In the following discussion I will pursue Paul's proposal that the preposed object is an internal topic. However, departing from Paul, I will argue that multiple internal topics are allowed in the V-*duo* construction, and that like the external topic, the internal topic occupies

the specifier of the Topic Phrase.

As shown in (53), multiple topics are allowed in the internal topic position in the V-*duo*

construction:

(53) a. Ni   zhe-pen   hua   shui$_i$ jiao-duo-le   t$_i$.

2SG   this-CL   flower   water   pour-much-ASP

'This flower, you watered it quite a lot.'

b. Ni   zhounianqing   huazhuangpin$_i$ mai-duo-le   t$_i$.

2SG   anniversary sale   cosmetics   buy-much-ASP

'The anniversary sale, you bought cosmetic products quite a lot.'

c. Ni   weiqi   bisai   yajun$_i$ na-duo-le   t$_i$.

2SG   go   game   second place   obtain-much-ASP

'The go games, you got the second place quite a lot.'

Note that here multiple internal topics refer to topics which belong to different types.

According to Del Gobbo and Badan (2007), topics in Chinese can be divided into three

subtypes, as shown in (54).

(54) a. Hua,   wo   zui   xihuan   baihe.   (Aboutness Topic)

flower   I   most   like   lily

'As for flowers, I like lilies most.'

b.   Zhe-ge   ren$_i$,   wo   hen   xihuan   ta$_i$.   (Hanging Topic)

this-CL   person   I   very   like   him

'This person, I like him a lot.'

c.   Zhe-ben shu$_i$,   Geruisen   kan-wan-le   t$_i$.   (Left Dislocation Topic)

this-CL book   Grissom   read-finish-ASP

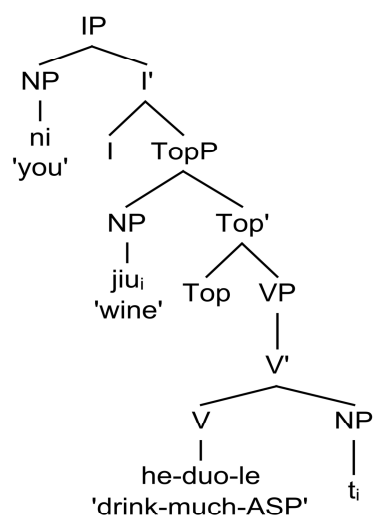'This book, Grissom finished reading it.'

As to the Aboutness Topic, there is no gap in the comment sentence, i.e. the topic is base-generated. Concerning the Hanging Topic, there is always a pronoun co-indexed with it in the comment sentence. Kuo (2009) assumes that this type of topic is also base-generated in its surface position. Regarding the Left Dislocation Topic, this topic is co-indexed with a trace which is left in the comment sentence. Hence, Kuo (2009) assumes that this type of topic is derived by movement.

In sentences (53a-c) above we have an Aboutness Topic followed by a Left Dislocation Topic. The first NP is an Aboutness Topic since it is derived by base-generation. There exists no postverbal position this constituent could have originated by movement. The second NP is a Left Dislocation Topic since it is derived by movement. This constituent is co-indexed with

a trace in the postverbal position. In other words, sentences (53a-c) each contain both a

base-generated and a moved topic which co-occur in the internal topic position. Accordingly,

departing from Paul (2002), we assume that multiple topics are allowed in the internal topic

position in the V-*duo* construction, provided that they belong to different types.

Since TopP recursion is available IP-internally in the V-*duo* construction, we assume

that like external topics, internal topics are located in the Spec of TopicP, as shown in (55).

Movement of a constituent which is interpreted as a Topic is basically driven by feature

checking. One way of implementing this is to assume that the head Top constituent of the

Topic Phrase contains an [EPP] feature and an uninterpretable topic feature, and that these

attract a maximal projection which carries a matching interpretable topic feature to move to

the specifier position within the Topic Phrase (cf. Radford 2004).

(55)

```
                IP
              /    \
            NP      I'
            |      /  \
            ni    I    TopP
           'you'      /    \
                    NP      Top'
                    |      /   \
                  jiu_i  Top    VP
                  'wine'        |
                               V'
                             /    \
                            V      NP
                            |      |
                        he-duo-le  t_i
                     'drink-much-ASP'
```

CHAPTER 4

THE V-DUO CONSTRUCTION AS AN ATYPICAL COMPARATIVE

CONSTRUCTION

In this chapter, I will first introduce the semantics of the positive form as a way to bring us deep into the heart of this study. Then two modes of comparison (i.e., explicit and implicit comparison) will be introduced. Subsequently, I will provide evidence for analyzing the V-*duo* construction as an implicit comparison construction. After this, I will argue that the V-*duo* construction contains a covert positive morpheme *pos*. Finally, I will answer the following questions. (A) Which element provides the meaning of implicit comparison? (B) What is the target of comparison? (C) Which element introduces the standard of comparison? (D) Which element provides the dimension of comparison? (E) What is the dimension of comparison?

4.1   The Positive Form

According to Barker (2002), Kennedy and McNally (2005), and Kennedy (2007), there are two apparently universal features of the positive form of gradable adjectives (e.g., *expensive*). The first one which might be putative is that the positive form of gradable

adjectives such as *expensive* and *tall*, in contrast with their comparative form (i.e., *more expensive* and *taller*), lacks overt morphology.

The second is a semantic one. The interpretation of the positive form is context dependent (with a few important exceptions). For example, whether (56) is true or not depends in large part on the context in which it is uttered.

(56)   The coffee in Rome is expensive.

Example (56) could be judged true if asserted as part of a conversation about the cost of living in various Italian cities, as in (57a), but false in a discussion of the cost of living in Chicago vs. Rome, as in (57b).

(57)   a.   In Rome, even the coffee is expensive!

        b.   The rents are high in Rome, but at least the coffee is not expensive!

One account for this variability is that the positive form expresses a relation between the degree to which the subject of the predicate manifests the relevant property and a contextually variable STANDARD OF COMPARISON, whose value is determined both as a function of the meaning of the predicate and of features of the context of utterance — what is being

talked about, the interests/expectations of the participants in the discourse, and so forth (see e.g. Barker 2002; Kennedy & McNally 2005; Kennedy 2007). As Kennedy (2005, 2007) suggests, one option for the compositional semantics of the positive form is to assume a degree morpheme *pos* with a denotation along the lines of (58), where **s** is a context sensitive function that takes a gradable predicate meaning as input and returns a standard of comparison appropriate for the context as output (cf. Cresswell 1977; von Stechow 1984; Kennedy & McNally 2005).

(58) $[[_{\text{Deg}} pos]] = \lambda g.\lambda x.g(x) > s(g)$

4.2 Explicit vs. Implicit Comparison

Kennedy (2007) further uses this semantic characteristic of the positive form to divide 'comparison' in natural languages into two different modes: explicit and implicit comparison. Many languages use specialized morphology to express arbitrary ordering relations, for example the morphemes *more*/-*er*, *less* and *as* specifically for the purpose of establishing orderings of superiority, inferiority and equality in English (i.e., explicit comparison), as illustrated by (59a–c), respectively.

(59) a. Mercury is closer to the sun than Venus.

b. This book is less expensive than that one.

c. This book is as expensive as that one.

However, other languages, like Samoan, take advantage of the inherent context sensitivity of the positive (unmarked) form (i.e., implicit comparison), as (60) shows (Staseen, 1985).

(60) Ua tele le Queen Mary, ua la'itiiti le Aquitania.

 is big the Queen Mary is small the Aquitania

'The Queen Mary is bigger than the Aquitania.'

Thus, natural languages, as Kennedy (2007) suggests, use two different modes (i.e., implicit and explicit comparison) to express comparison (Sapir, 1944).

(61) Implicit comparison

Establish an ordering between objects *x* and *y* with respect to gradable property *g* using the positive form by manipulating the context or context-sensitive function in such a way that the positive form is true of *x* and false of *y*.

(62) Explicit comparison

Establish an ordering between objects *x* and *y* with respect to gradable property *g* using special morphology (e.g., *more/-er*, *less*, or *as*) whose conventional meaning has the consequence that the degree to which *x* is *g* exceeds the degree to which *y* is *g*.

These two modes of comparison (i.e., explicit and implicit comparison), as Kennedy (2007) further argues, differ from each other in the following ways. First, implicit comparison induced by the positive form of gradable adjectives differs from explicit comparison in acceptability in contexts involving crisp judgments (i.e., very slight differences between the compared objects). For example, explicit comparison in (64a) simply requires an asymmetric ordering between the degrees to which two objects possess the relevant property (i.e., the length of essays); therefore, a crisp judgment is not problematic. However, implicit comparison in (64b) requires the first novel to have a degree of length that that stands out relative to the measure expressed by *long* in the context; therefore, a fine-grained distinction in degree is not allowed.

(63) CONTEXT: A 600 word essay and a 200 word essay

a. This essay is longer than that one.   (explicit comparison)

b. Compared to that essay, this one is long.   (implicit comparison)

(64)   CONTEXT: A 600 word essay and a 597 word essay

    a.   This essay is longer than that one.   (explicit comparison)

    b. ??Compared to that essay, this one is long.   (implicit comparison)

Second, composition of a measure phrase and a gradable adjective generates a predicate that is no longer context dependent. This predicts that implicit comparison should be impossible: once a (non-comparative) adjective combines with a measure phrase, there is no standard of comparison left over to manipulate. This prediction is borne out, as in (65a).

(65)   a. ??Compared to Lee, Kim is 10cm tall.   (implicit comparison)

    b.   Kim is 10 cm taller than Lee.   (explicit comparison)

On the other hand, measure phrases are acceptable with explicit comparatives, and crucially have a specific type of meaning: they denote the difference between two degrees on a scale; in (65b), the difference between Kim's and Lee's heights.

Having as background knowledge the semantics of the positive form of (English) gradable adjectives and the semantic distinctions between the implicit and the explicit comparison, now let us look at Chinese examples of explicit and implicit comparatives, as

shown by (66) and (67), respectively.

(66) Zhangsan   bi   Lisi   gao.   (explicit comparison)

      Zhangsan   COM   Lisi   tall

      'Zhangsan is taller than Lisi.'

(67) Zhangsan   hen   gao.   (implicit comparison)

      Zhangsan   HEN   tall

      'Zhangsan is tall.'

The Chinese *bi* comparative has the properties of explicit comparison. First, the Chinese *bi* comparative uses the comparative morpheme *bi* for the purpose of establishing the ordering relation of superiority (cf. Li and Thompson 1981; Lin 2009).

Second, the Chinese *bi* comparative such as (66) above is acceptable in context (68), which involves a crisp judgment:

(68) Context: Zhangsan is 170 centimeters tall while Lisi is 169 centimeters tall.

Third, differential measure phrases are acceptable with the Chinese *bi* comparative:

(69) Zhangsan bi   Lisi   gao   yi   gongfen.

      Zhangsan COM   Lisi   tall   one   centimeter

      'Zhangsan is one centimeter taller than Lisi.'

On the other hand, a construction involving a predicative adjective modified by the degree word *hen* like (67) above has the properties of implicit comparison. First, as Zhang (2002:169) points out, a predicative adjective modified by the degree word *hen*, for example *hen qiong* 'very poor' in (70a-b), always displays the contextually dependent interpretation as the positive form of English gradable adjectives does.

(70) a. Ta   hen   qiong, lian   chi   fan   de   qian   dou   mei you.

          3SG HEN   poor   even   eat   meal DE   money   all   not have

          'He is poor. He even does not have money to eat meals.'

      b. Ta   hen   qiong, lian   xiao qiche dou   mai-bu-qi.

          3SG HEN   poor even   small car   all   buy-not-afford

          'He is poor. He even cannot afford a small car.'

Second, such a construction is unacceptable in contexts which involve crisp judgments,

but acceptable in contexts which do not. For example, sentence (71) is unacceptable in

scenario (72A), but acceptable in scenario (72B). In other words, in (71) the implicit

comparison implied by the predicate *hen gao* 'HEN tall' requires 'this tree' to exceed 'that

tree' in height by a significant amount.

(71) Gen na-ke shu bi-qilai,   zhe-ke shu hen gao.

with that-CL tree compare-qilai this-CL tree HEN tall

'Compared with that tree, this one is tall.'

(72) Context A: This tree is 15 meters tall while that tree is 13 meters tall.

Context B: This tree is 15 meters tall while that tree is 5 meters tall.

Third, differential measure phrases are unacceptable with such a construction, as shown

by (73).

(73) *Zhangsan hen gao san gongfen.

Zhangsan HEN tall three centimeter

Thus, in Chinese the *bi* comparative involves explicit comparison, whereas a

construction involving a predicative adjective modified by the degree word *hen* implies

implicit comparison.

To sum up, as Kennedy (2007) points out, the distinctions between implicit and explicit

comparison stem from the crucial difference between the two modes of comparison: implicit

comparison involves the semantics of the positive form; explicit comparison expresses an

arbitrary ordering relation.

4.3   The V-*duo* Construction as an Implicit Comparison Construction

Based on the contextually dependent interpretations of *duo*, the diagnostics for implicit

comparison proposed by Kennedy (2007) (i.e., crisp judgments and differential

measurements), and the incompatibility with the word *bi*, it will be argued that the V-*duo*

construction is an implicit comparison construction.

First, the interpretation of the positive form of the gradable adjective *duo* is context

dependent. For one thing, what counts as *duo* 'much' will vary from one context to the next,

as in (74a-b).

(74)   a.   Zhaji   chi-duo   le,   hui   zhang   qingchundou.

        fried chicken   eat-much   SFP   will   produce   acne

        'Eating too much fried chicken will cause you to have acne.'

b.   Zhaji   chi-duo   le,   hui   zhi   ai.

fried chicken   eat-much   SFP   will   cause   cancer

'Eating too much fried chicken will cause cancer.'

For another, the truth conditions of the V-*duo* construction depend in large part on the context

in which it is uttered. To state it more concretely, sentence (75) could be judged true in

context (76A), but false in context (76B):

(75)   Ni   jiu   he-duo   LE.

2SG   wine   drink-much   ASP/SFP

'You drank quite a lot.'

(76)   Context A: Zhangsan drank five bottles of wine. Suppose Zhangsan will get drunk with

only a bottle of wine.

Context B: Lisi drank five bottles of wine. Suppose Lisi can drink ten bottles of wine

without getting drunk.

The context sensitivity is not found in explicit comparatives, which simply establish an

ordering between two arbitrary individuals. On the other hand, implicit comparatives express

comparison by taking advantage of the inherent context sensitivity of the positive form (cf.

Kennedy 2007). Thus, it is not unreasonable for us to assume that the V-*duo* construction

involves implicit comparison.

Second, the V-*duo* construction is unacceptable in contexts involving 'crisp judgments'.

For example, sentence (77) is unacceptable in context (78A), which involves a crisp

judgment, but acceptable in context (78B), which does not:

(77) Zhangsan   shui-duo   LE.

      Zhangsan   sleep-much   ASP/SFP

      'Zhangsan slept quite a lot.'

(78)   Context A: Zhangsan slept for 8 hours and 5 minutes while the normal amount of sleep

          is around 8 hours per night.

       Context B: Zhangsan slept for 14 hours while the normal amount of sleep is around 8

       hours per night.

In other words, for (77) to be true, the total amount of sleeping by Zhangsan must exceed the

contextually determined standard amount of sleep by a significant amount.

Third, the measure phrase which in most cases occurs in the numeral-measure-unit or

numeral-classifier pattern is obligatory in the Chinese *duo*-V verbal comparative (an instance

of an explicit comparative) and denotes the differential, as shown in (79).

(79) Ni   duo   he-le   (Lisi)   *(san-ping   jiu).

2SG   much   drink-ASP   Lisi   three-CL-IN   wine

'You drank three more bottles of wine than Lisi did.'

However, the V-*duo* construction is not compatible with a measure phrase, which is

interpreted as the differential, as shown by (80).

(80) *Ni   he-duo-le   san-ping   jiu.

2SG   drink-much- ASP   three-CL-IN   wine

Fourth, if the V-*duo* construction is analyzed as an explicit comparative, it is expected

that it can co-occur with the word *bi*, which implies explicit comparison. However, this

expectation is not borne out, as illustrated by (81).

(81) *Ni   jiu   bi   Lisi   he-duo   LE.

2SG   wine   COM   Lisi   drink-much   ASP/SFP

These properties lead us to suggest that the V-*duo* construction is an implicit comparison construction.

4.4   A Covert Positive Morpheme *Pos* in the V-*duo* Construction

Before going into the discussion, I shall answer the following question first. Does Chinese have a covert positive morpheme? As demonstrated extensively in Liu (2010), Chinese has a number of constructions in which the positive degree meaning is achieved covertly, including the *bu* 'not' negation sentence, the contrastive focus construction, the *ma* particle question, the epistemic adjectival small clause, the conditional, and sentences ending with the sentence final particle *le*, as shown by (82a–f), respectively.

(82)   a.   Zhangsan   bu   gao.

Zhangsan   not   tall

'Zhangsan is not tall, but the possibility of Zhangsan's being short is not excluded.'

'*Zhangsan is not taller.'

b.   Zhangsan   gao, Lisi   ai.

Zhangsan   tall Lisi   short

'Zhangsan is tall, but Lisi is short.'

'*Zhangsan is taller, but Lisi is shorter.'

c.   Zhangsan gao ma?

Zhangsan tall SFP

'Is Zhangsan tall?'

'*Is Zhangsan taller?'

d.   Zhangsan yaoshi linse dehua, jiu   bu   hui   qing   ni   chi fan.

Zhangsan if   stingy PAR then   not   will   invite you   eat rice

'If Zhangsan is stingy, he will not treat you to dinner.'

'*If Zhangsna is more stingy, he will not treat you to dinner.'

e.   Zhangsan   xiao   ni   ben.

Zhangsan   deride   you   stupid

'Zhangsan derided you as being stupid.'

'*Zhangsan derided you as being more stupid.'

f.   Hua   hong   le.

flower   red   SFP

'The flower got red.'

'*The flower got redder.'

Liu (2010) argues that in each of these sentences, positive semantics is provided by a

covert positive morpheme *pos*. According to Liu (2010), the semantic interpretation of a *bu* 'not' negation sentence containing a simple adjectival predicate like (82a) implies that Chinese does have a covert positive morpheme. Liu (2010) suggests that example (82a) means that it is not the case that Zhangsan's height exceeds the contextually determined standard height of human beings by a significant amount. In other words, Zhangsan's height might exceed the contextually determined standard height but the difference between the degree value of Zhangsan's height and the standard height is not significant, and this does not exclude the possibility of Zhangsan's being short, as the grammaticality of (83) shows.

(83) Zhangsan bu   gao, shijishang Zhangsan suan   shi ai   de.
      Zhangsan not tall actually   Zhangsan consider is   short DE
      'Zhangsan is not tall, and actually he can be considered as being short.'

As Kennedy (2007) points out, in addition to the contextually dependent interpretations, the positive form of gradable adjectives shows another semantic characteristic: it establishes an ordering between objects x and y with respect to gradable property g denoted by the positive form, and $g(x)$ must exceed $g(y)$ by a significant amount. One option for the compositional semantics of the positive form of gradable adjectives, as Kennedy (2007) suggests, is to assume a degree morpheme *pos* (i.e., the covert positive morpheme) with a

denotation along the lines of (58), repeated as (84), where *s* is a context-sensitive function from measure function to degree which, based on properties of the adjective *g* and the context of utterance, further returns a value that counts as a significant degree of the relevant property in the context of utterance; namely, $g(x)$ must exceed $g(y)$ by a significant amount.

(84) $[[_{Deg}\, pos]] = \lambda g.\lambda x.g(x) > s(g)$

Given this semantic property of the positive morpheme, Liu (2010) argues that the semantic interpretation of (82a) inspires him to analyze (82a) as (85), in which there is a degree projection headed by the *pos* morpheme above the adjective phrase *gao* 'tall'.

(85) Zhangsan   bu [$_{DegP}$ *pos* [$_{AP}$ gao]].

   Zhangsan   not   tall

    'Zhangsan is not tall.'

Thus, Liu (2010) suggests that like English, Chinese has a covert positive morpheme. Having this as basis, now let us return to the V-*duo* construction. Having established that the V-*duo* construction is an implicit comparison construction which, according to Kennedy (2007), relies on the inherent context sensitivity of the positive form, we thus assume that the

V-*duo* construction involves the semantics of the positive form. The compositional semantics

of the positive form, as Kennedy (2005, 2007) suggests, can be derived by combining the

lexical adjective with a 'positive' morpheme that introduces a contextual standard of

comparison.

Accordingly, based on Liu's (2010)'s argument that Chinese has a covert positive

morpheme and Kennedy's (2007)'s proposal that one option for the compositional semantics

of the positive form is to assume a covert positive morpheme *pos*, we posit that there exists a

covert positive morpheme *pos* in the V-*duo* construction, which is analyzed as an implicit

comparison construction. Because V-*duo* is a compound verb, as argued in section 2.1, we

pursue Tang's (1991) proposal and assume that the covert positive morpheme *pos* is merged

with or incorporated into the morpheme *duo* at lexical level and thus becomes part of the

morpheme *duo*, as (86) shows.

(86)

```
            V
          /   \
         V     A
         |    /  \
        he  Deg   A
             |    |
            pos  duo
```
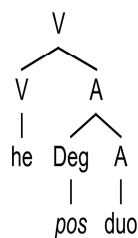
Note that Liu (2010) argues that in Chinese the positive morpheme has two allomorphs:

one is the covert positive allomorph (i.e., the *pos* morpheme), and the other is its overt

counterpart *hen*. So is it possible that the implicit comparison in the V-*duo* construction is provided by the overt positive morpheme *hen*? This possibility is ruled out based on the following reasons.

First, if the overt positive morpheme *hen* is adopted, this will result in a trisyllabic compound, which runs counter to the fact that V-*duo* is a disyllabic compound.

Second, a construction containing a verb plus *hen duo* like (87) differs from the V-*duo* construction in the following ways.

(87) Ni   jiu   he   hen   duo   le.

      2SG   wine   drink   very   many/much   SFP

      'You drank a lot of wine.'

For one thing, *hen duo* 'a lot of' modifies the quantity of internal arguments, whereas *duo* 'much' in the V-*duo* construction modifies the quantity of events, as illustrated by the grammatical contrast between (88) and (89).

(88) a. *Ni   lanqiu   da   hen   duo   LE.

          2SG   basketball   play   very   many/much   ASP/SFP

      b. *Ni   Xiangan   qu   hen   duo   LE.

2SG   Hong Kong   go   very   many/much   ASP/SFP

(89) a.   Ni   lanqiu   da-duo   LE.

2SG   basketball   play-much   ASP/SFP

'You played basketball quite a lot.'

   b.   Ni   Xiangan   qu-duo   LE.

2SG   Hong Kong   go-much   ASP/SFP

'You went to Hong Kong quite a lot.'

For another, a construction containing a verb plus *hen duo* is likely to be given a habitual interpretation, as shown by (90). In contrast, the V-*duo* construction is usually used to warn somebody against something. For example, (91) implies that drinking too much coffee may be harmful. Generally speaking, the V-*duo* construction conveys a negative meaning.

(90) Ta   kafei   he   hen   duo.

3SG   coffee   drink   very   many/much

'He has the habit of drinking a lot of coffee.'

(91) Ta   kafei   he-duo   LE.

3SG   coffee   drink-much   ASP/SFP

'He drank coffee quite a lot.'

4.5   The Semantic Constituents in Comparatives

According to Kennedy (2005), comparatives have the following semantic constituents (the labels are meant to be descriptive), illustrated with an example from English.

(92)   TARGET OF   GRADABLE   COMPARATIVE   STANDARD   STANDARD OF
      COMPARISON   PREDICATE   MORPHEME   MARKER   COMPARISON

      Kim (is)   tall   -er   than   Lee.

In English comparatives, the meaning of comparison is provided by the comparative morphemes *more/–er, less* and *as* specifically for the purpose of establishing orderings of superiority, inferiority and equality, respectively, the standard against which an object is compared is introduced by the morphemes *than* and *as*, and the dimension of comparison is provided by a predicate that is gradable, as illustrated by (93a-c) (cf. Kennedy 2007).

(93)   a.   Mercury is closer to the sun than Venus.

      b.   The Mars Pathfinder mission was less expensive than previous missions to Mars.

      c.   Uranus doesn't have as many rings as Saturn.

In the Chinese *bi* comparative, the meaning of comparison is provided by the comparative morpheme *bi* for the purpose of establishing the ordering relation of superiority, the standard of comparison is introduced by the word *bi*, and the dimension of comparison is provided by a predicate that is gradable or that contains a gradable element (cf. Li and Thompson 1981), as shown by (94a-b).

(94) a. Zhangsan   bi   Lisi   gao.

          Zhangsan   COM   Lisi   tall

          'Zhangsan is taller than Lisi.'

      b. Zhangsan   bi   Lisi   pao-de   kuai.

          Zhangsan   COM   Lisi   run-DE   fast

          'Zhangsan runs faster than Lisi does.'

Kennedy (2005, 2007) argues that the way that the various semantic constituents illustrated in (92) above are expressed syntactically varies quite a bit from language to language. Not all languages have comparatives that (overtly) manifest all of the constituents in (92). First, many languages lack specialized comparative morphology. Second, many languages lack specific standard markers analogous to English *than*.

In the V-*duo* construction the meaning of implicit comparison is provided by the degree morpheme *pos* (i.e., a covert positive morpheme) with a denotation along the lines of (58), repeated as (95), where **s** is a context sensitive function that takes a gradable predicate meaning as input and returns a standard of comparison appropriate for the context as output.

(95) $[[_{\text{Deg}}\ pos]] = \lambda g.\lambda x.g(x) > s(g)$

The standard of comparison in the V-*duo* construction is neither introduced by specific syntactic categories nor overtly manifested. Instead, the contextually determined standard of comparison in the V-*duo* construction is introduced by the covert positive morpheme *pos*. The target of comparison is the event denoted by the VP. The dimension of comparison *quantity* is provided the gradable element *duo*. Thus, the V-*duo* construction involves comparing two events along the *quantity* dimension. For example, in (96) the semantics of *duo* requires 'the drinking event by Zhangsan' to exceed 'the drinking event denoted by the context-sensitive standard' in quantity by a significant amount.

(96)   Zhangsan   jiu   he-duo   LE.

Zhangsan   wine   drink-much   ASP/SFP

'Zhangsan drank wine quite a lot.'

CHAPTER 5

CONCLUDING REMARKS

The syntactic and semantic properties shown by the V-*duo* construction can be briefly summarized as follows: (A) V-*duo* is a verb-complement compound verb. (B) The morpheme *duo* is compatible with stage-level verbs but incompatible with individual-level verbs. (C) The morpheme *duo*, in general, modifies the quantity of events. (D) The events must be atelic, unbounded or cumulative. (E) The semantics of *duo* implies that the standard event quantity is context-sensitive.

With respect to the syntactic analysis of the V-*duo* construction, following Paul (2002) I argued that the object preposed to the post-subject/pre-verb position is an internal topic. However, departing from Paul (2002), I argued that multiple topics are allowed in the internal topic position in the V-*duo* construction, provided they belong to different types. Since TopP recursion is available IP-internally in the V-*duo* construction, I argued that like the external topic in the sentence-initial position, the internal topic is located in the Spec of TopicP. Movement of a constituent which is interpreted as a Topic is basically driven by feature checking. One way of implementing this is to assume that the head Top constituent of the Topic Phrase contains an [EPP] feature and an uninterpretable topic feature, and that these

attract a maximal projection which carries a matching interpretable topic feature to move to

the specifier position within the Topic Phrase (cf. Radford 2004).

This paper further argues that the V-*duo* construction is an implicit comparison

construction. There are four reasons for this: (A) the V-*duo* construction expresses

comparison by taking advantage of the inherent context sensitivity of the positive form of the

gradable adjective *duo*: what counts as *duo* 'much' varies from one context to the next, and

the truth conditions of the V-*duo* construction depend in large part on the context in which it

is uttered, (B) the V-*duo* construction is unacceptable in contexts involving 'crisp judgments',

(C) the V-*duo* construction is incompatible with differential measure phrases, and (D) the

V-*duo* construction cannot co-occur with the word *bi*, which implies explicit comparison. As

Kennedy (2007) points out, implicit comparison involves taking advantage of the inherent

context dependence of the positive form. One account for the contextually dependent

interpretations in the positive form, as Kennedy (2007) argues, is to assume a degree

morpheme *pos* (i.e., a covert positive morpheme) with a denotation along the lines of (58),

repeated here as (97):

(97)　　$[[_{\text{Deg}}\, pos]] = \lambda g.\lambda x.g(x) > s(g)$

Here **s** is a context sensitive function that takes a gradable predicate meaning as input and

returns a standard of comparison appropriate for the context as output (cf. Cresswell 1977; von Stechow 1984; Kennedy & McNally 2005).

In addition, according to Liu (2010), Chinese has a covert positive morpheme. Thus, it is not unreasonable for us to assume that the V-*duo* construction, as an implicit comparison construction, contains the covert positive morpheme *pos*, which is merged with or incorporated into the morpheme *duo* at lexical level because V-*duo* is a compound verb. The assumption that the semantics of *duo* is derived by merging *pos* with *duo* or by incorporating *pos* into *duo* at lexical level explains why the standard of comparison in the V-*duo* construction is context-sensitive so that the event in the V-*duo* construction cannot be telic, bounded, or quantized.

In the V-*duo* construction, the meaning of implicit comparison is provided by the degree morpheme *pos* (i.e., a covert positive morpheme). The contextually determined standard of comparison is introduced by the covert positive morpheme *pos*. The target of comparison is the event denoted by the VP. The dimension of comparison *quantity* is provided the gradable element *duo*. Thus, the V-*duo* construction involves comparing two events along the *quantity* dimension.

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