

**A SCALAR ANALYSIS OF  
CHINESE INCREMENTAL THEME VP\***

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ABSTRACT

Incremental theme “V + *yi* ‘a/one’ + CL + N” sequences in Mandarin Chinese exhibit dual telicity in that sometimes they have a completion interpretation and other times a termination interpretation. This paper shows that in Mandarin Chinese, incremental theme V + *yi* ‘a/one’ + CL + N sequences describe multi-point closed scalar changes (Rappaport Hovav and Levin 2010, among others), an aspectual class which subsumes the traditional concept of accomplishments (Vendler 1957). Furthermore, in light of recent findings in a scalar analysis of English incremental theme argument NPs (Kennedy 2012), we show that the ambiguous aspectual interpretations of events with incremental theme in Mandarin Chinese can be consistently explained by the scalar features lexicalized in their argument NPs. Furthermore, we will show that the scalar analysis has more explanatory power in accommodating the different types of NPs and different types of events denoting incremental changes than the previous approaches. The results of this study shed important light on the analysis of lexical aspect in Mandarin Chinese.

SUBJECT KEYWORDS

accomplishment, argument NPs, incremental changes, multi-point scalar changes, open-scale changes, dual telicity

## 1. INTRODUCTION

According to analyses on incremental changes in English, the progress of an event entailing an incremental change is determined by its incrementally affected theme (Dowty 1979/1991, Krifka 1989/1992, Tenny 1994, and Kennedy 2012, among others). In English, incremental theme expressions such as *run a mile* or *draw a circle* are analyzed as accomplishments, i.e. events with a duration leading up to the completion of an event (Vendler 1957: 146). These expressions convey completion by default when used in the perfective (Smith 1991, 1994:113). However, Chinese expressions corresponding to these English accomplishments do not always denote completed events. The sequence V + *yi* 'one/a' + CL + N can describe events that are completed as in (1), but the same sequence V + *yi* 'one/a' + CL + N can be interpreted as terminated events as well in (2).<sup>3</sup>

- (1) a. 他画了一幅画，第二天交给了老师。  
Ta hua-le yi-fu hua, di-er tian jiao-gei-le laoshi  
3<sup>rd</sup> draw-LE one-CL picture, Det-two day turn-to-LE teacher  
'He drew one picture/a certain picture, and turned it in to his teacher on the next day.'
- b. 他吃了一个蛋糕，所以少了一个蛋糕。  
Ta chi-le yi-ge dangao, suoyi shao-le yi-ge dangao  
3<sup>rd</sup> eat-LE one-CL cake, thus decrease-LE one-CL cake  
'He ate one cake/a certain cake, thus now there is one less cake.'
- c. 他看了一本书，把里面的故事都记住了。  
Ta kan-le yi-ben shu, ba limian de gushi dou jizhu-le  
3<sup>rd</sup> read-LE one-CL book, BA inside DE story all memorize-LE  
'He read one book/a certain book, and memorized all the stories in the book.'
- (2) a. 他画了一幅画，可是没画完。  
Ta hua-le yi-fu hua, keshi mei hua-wan  
He draw-LE one-CL picture but not draw-finish

- ‘He drew #one picture/a certain picture<sup>4</sup>, but he didn’t finish drawing it.’ (Soh and Kuo 2005: 205)
- b. 他吃了一个蛋糕，可是没吃完。  
 Ta chi-le yi-ge dangao, keshi mei chi-wan.  
 He eat-LE one- CL cake but not eat-finish  
 ‘He ate #one cake/a certain cake, but he did not finish eating it.’  
 (Soh and Kuo 2005: 204)
- c. 他看了一本书，可是没看完。  
 Ta kan-le yi-ben shu, keshi mei kan-wan.  
 He read-LE one-CL book but not read-finish  
 ‘He read #one book/a certain book, but he did not finish reading it.’ (Soh and Kuo 2005: 204)

In (2), a given event is understood to be terminated, as confirmed by its compatibility with a conjoined phrase which cancels the completion of the event.

In addition, when a noun is modified by a numeral other than *yi* ‘one/a’, incremental theme verb phrases in the perfective always entail the completion of the events, i.e. the attainment of an endpoint (Soh and Kuo 2005:204-205). As illustrated in (3), the object noun *hua* ‘picture’, *dangao* ‘cake’, and *shu* ‘book’ are modified by the numeral *liang* ‘two’ followed by the numeral classifier (CL), and the event described in the first clause of the sentence is always understood as completed. The default telic interpretation of V + numeral NP is confirmed by the given VP’s incompatibility with a conjoined phrase that cancels the completion of the described event.<sup>5</sup> This phenomenon is true for all three types of incremental theme verbs, i.e. verbs of creation such as *hua* ‘draw/paint’<sup>6</sup> (3a), verbs of consumption such as *chi* ‘eat’ (3b), and verbs of affect such as *kan* ‘read’ (3c)<sup>7</sup>.

- (3) a. 他画了#两幅画，可是没画完。  
 Ta hua-le #liang-fu hua, keshi mei hua-wan  
 He draw-LE two-CL picture but NEG draw-finish  
 ‘#He drew two pictures, but didn’t finish drawing them.’

(Soh and Kuo 2005: 205)<sup>8</sup>

- b. 他吃了#两个蛋糕，可是没吃完。

Ta chi-le #liang-ge dangao, keshi mei chi-wan  
He eat-LE two-CL cake but NEG eat-finish  
'#He ate two cakes, but he did not finish eating them.'

(Soh and Kuo 2005: 204)

- c. 他看了#两本书，可是没看完。

Ta kan-le #liang-ben shu, keshi mei kan-wan  
He read-LE two-CL book but NEG read-finish  
'#He read two books, but he did not finish reading them.' (Soh  
and Kuo 2005: 204)

Furthermore, as illustrated in (4), when the object nouns of incremental theme VPs are bare nouns (*hua* 'picture', *xuegao* 'ice cream', and *shu* 'book'), it is natural for the given phrases to have a termination interpretation.

- (4) a. 昨天画画没画完，今天继续。

zuotian hua hua mei hua wan, jintian jixu  
yesterday draw picture NEG draw finish today continue  
'Yesterday [I] drew pictures but didn't finish drawing; [i] will  
continue today.' (<http://bbs.tianya.cn/post-free-1979389-1.shtml>)

- b. 大宝吃雪糕，没吃完，我吃剩下的。

dabao chi xuegao ,mei chi wan, wo chi shengxia de  
big.baby eat ice.cream NEG eat finish I eat rest NOM  
'My elder child ate icecream but didn't finish eating; I ate the  
rest.' (<http://www.yi4all.com/?cat=51>)

- c. 昨晚看书没看完。

zuowan kan shu mei kan wan  
last.night read book NEG read finish  
'I read books last night, but didn't finish reading.'  
(<http://tieba.baidu.com/p/2039305962>)

So far, we have seen the three syntactic patterns that describe events of incremental change. These three patterns exhibit different interpretations regarding telicity: V+ *yi* ‘one/a’ + CL + N describes either terminated (2) or completed events (1); V + numeral (other than *yi* ‘one/a’) + CL + N only denotes completed events (3); V + bare N expresses a terminated reading by default (4).

Especially based on the termination meaning denoted by V+ *yi* + CL + N sequence such as *hua yi-fu hua* ‘draw a/one picture’ in (2), some scholars argue that Chinese does not have accomplishment predicates that correspond to English accomplishments such as *draw/paint a picture* or *write a letter* (Chu 1976, Tai 1984, Sybesma 1997/1999, among others), whereas others claim that Chinese does have comparable accomplishment predicates (Smith 1994, Soh and Kuo 2005). Regarding this debate, this study proposes that the V+ *yi* + CL + N sequence expresses a “multi-point scalar change” (Rappaport Hovav and Levin 2010, among others), another aspectual class that subsumes a traditional notion of accomplishments (cf. Peck et al. 2013). Furthermore we will provide a detailed aspectual analysis of V + numeral (other than *yi* ‘one/a’) + CL + N and V + bare N, from the perspective of scalar analysis, following Kennedy (2012).

## 2. PREVIOUS ANALYSES

In this section we introduce representative previous studies, mainly including Tai (1984) and Soh and Kuo (2005). Tai (1984) claims that Chinese does not have accomplishment predicates based on the termination interpretation of V + *yi* ‘one/a’ + CL + N sequence. On the other hand, Soh and Kuo (2005) argue that Chinese does have accomplishment predicates based on the obligatory completion interpretation of the V + numeral (other than *yi* ‘one/a’) + CL + N sequence and further explain that the acceptability of termination readings of V + *yi* ‘a’ + CL + N sequence is due to the exceptional case of APOs (“Allows Partial Object”) as discussed in section 2.2.

## 2.1 Tai (1984)

Tai (1984:293) argues that the incremental theme V + *yi* + CL + N sequences in Mandarin Chinese do not express accomplishment. His hypothesis relies on the fact that contrary to English accomplishment expressions such as *paint a picture*, the corresponding Chinese expressions such as *hua yi-fu hua* ‘paint a picture’ can be naturally conjoined by a statement that cancels the completion of the given event, as in (5). In other words, while the English accomplishment expression *paint a picture* only allows a completion understanding, *hua yi-fu hua* ‘paint a picture’ also allows a termination interpretation, and thus does not behave like an accomplishment.

(5) 我昨天画了一张画，可是没画完。

Wo zuotian hua-le yi-zhang hua, keshi mei hua-wan  
1<sup>st</sup> yesterday paint-PFV one-CL picture, but NEG paint-complete<sup>9</sup>  
‘? I painted a picture yesterday, but I didn’t finish it.’

(Tai 1984: 292)

Tai (1984) further examines whether Chinese resultative verb compounds (RVCs) are accomplishments or not. As shown in (6), the RVCs *hua-wan* ‘paint-complete’ indeed denotes the completion of an event, as the event described by *hua-wan* is incompatible with the second clause that cancels the completion of the event described in the first clause.

(6) \*我昨天画完了一张画，可是没画完

\*wo zuotian hua-wan-le yi-zhang hua, keshi mei hua-wan  
1<sup>st</sup> yesterday paint-complete-PFV one-CL picture, but NEG paint-complete

‘\*I finished painting a picture yesterday, but I didn’t finish it.’

(Tai 1984: 292)

Nonetheless, Tai (1984) observes that RVCs in Mandarin Chinese are still different from English accomplishment expressions: an RVC does not express a durative aspect which leads up to the result, i.e. the process of painting a picture in the case of (6). Tai (1984) argues that the lack of durative aspect in Chinese RVCs can be confirmed by the progressive test. Expressions describing durative events are usually compatible with the progressive adverb *zai* in Mandarin Chinese, whereas expressions of punctual events usually are not. (7) shows that the verb *hua* ‘paint’ alone describes a durative event, whereas RVC *hua-wan* ‘paint-complete’ denotes a punctual event.

- (7) a. 我在画一张画。 (durative)  
 Wo zai hua yi-zhang hua  
 1<sup>st</sup> PROG paint one-CL picture  
 ‘I am painting a picture.’ (Tai 1984: 292)
- b. \*我在画完一张画。 (punctual)  
 \*wo zai hua-wan yi-zhang hua  
 1<sup>st</sup> PROG paint-complete one-CL picture  
 ‘I am finishing the picture.’ (Tai 1984: 292)

Based on the above observation, Tai (1984:293) concludes that “Chinese doesn’t have the category of accomplishment verbs” (cf. Lin 2004:64). Even though Tai (1984) specifically expresses that accomplishment “verbs” do not exist in Chinese, examples (5-6) show that Tai (1984) also implies that Chinese does not have accomplishment predicates.

However, we argue that Tai’s (1984) analysis cannot fully account for the behavior of the V+ *yi* + CL + N sequences in Mandarin Chinese: although the V + *yi* + CL + N sequence in (5) (and also (2a)) can have a termination understanding, the identical sequence can also indicate that the subject has already finished drawing a picture, i.e. a completion understanding as shown in (1); furthermore, the sequence *hua yi-zhang hua* ‘draw/paint a picture’ is durative, as illustrated in (7a).

In addition, the cancellation test in (5) cannot be used as a sole diagnostic to test telicity or the existence of an endpoint, because the test examines whether an endpoint of the event described has been well-reached or not, rather than whether the event ever has an inherent endpoint. The existence of an endpoint and whether or not the existing endpoint has been reached should not be identified with each other (cf. Smith 1994:112-113)<sup>10</sup>. The diagnostic that tests the compatibility with *in*-adverbials further supports that the sequence *hua yi-zhang hua* ‘draw a picture’ has an inherent endpoint as in (8).<sup>11</sup>

(8) 他一个月只画了一幅画

Ta yi ge yue zhi hua-le yi-fu hua  
 3<sup>RD</sup> one-CL month only draw-LE one-CL picture  
 ‘He drew only one/a picture in one month’

(1a), (7a), and (8) suggest that a V + *yi* + CL + N sequence such as *hua yi -fu hua* ‘draw a picture’ has an inherent endpoint and a durative feature. These are features of accomplishments. However, Tai’s (1984) observation on the atelic interpretation of a V+ *yi* + CL + N sequence is correct, and the traditional notion of accomplishments is not adequate enough to explain the phenomenon where *hua yi-fu hua* ‘paint/draw a picture’ exhibits dual interpretations: a termination meaning as in (2a, 5) and a completion meaning as in (1a, 8). Therefore, we need an alternative approach to the analysis of this sequence. We will discuss the scalar property of V+ *yi* + CL + N sequence in detail in section 3.

## 2.2 Soh and Kuo (2005)

Contrary to Tai (1984), Soh and Kuo (2005:214) argue that Chinese has accomplishment predicates by showing that a V + *liang* ‘two’ + CL + N sequence can only have a completion understanding. For example, the endpoint of the event must be understood as reached in (9).

(9) 他吃了#两个蛋糕，可是没吃完。(=3b)



Ta chi-le #liang-ge dangao, keshi mei chi-wan  
He eat-LE two-CL cake but not eat-finish  
'He ate two cakes, but he did not finish eating them.'  
(Soh and Kuo 2005: 204)

Soh and Kuo (2005:209-210) claim that bare nouns in Mandarin such as *dangao* have the property of unboundedness [-b], following Chierchia (1998)'s assumption that "the extensions of Chinese nouns are mass."<sup>12</sup> According to Soh and Kuo (2005), the count classifier does not affect the internal structure of the NP, but numerals such as *liang* 'two' convert a previously unbounded bare noun such as *dangao* to the bounded NP *liangge dangao*. When the NP argument is [+b] and is taken by an incremental theme V, the whole VP denotes a telic/bounded event, whereas when the NP argument is [-b], the sequence "incremental V + NP" expresses an atelic/unbounded event (Soh and Kuo 2005: 206).

Regarding nominals modified by *yi* 'one/a', Soh and Kuo (2005:212-213) provide the following analysis: first, Mandarin Chinese *yi* has two meanings: numeral 'one' and indefinite determiner 'a'; when *yi* is understood as the numeral 'one', the numeral converts a given NP to [+b], and thus *yi-fu hua* 'one-CL picture' gives rise to a telic/bounded interpretation, just like other numerals such as *liang* 'two'; however, when *yi* is understood as an indefinite determiner 'a', it assigns [ $\pm$ b] property to the mass noun which is [-b], and the nominal structure becomes [ $\pm$ b]; due to this, a given NP such as *yi-ge dangao* 'a cake' has dual possibilities of being either [+b] or [-b].

Furthermore, Soh and Kuo (2005: 202) state that there are two types of created objects, and each type gives rise to different interpretations: when an incremental theme is denoted by a type of noun that expresses a created object only when that object is in a complete form, a given predicate denotes accomplishments. Soh and Kuo (2005: 202) call this type of noun NPO ("No Partial Object") and explain that NPOs are objects that "cannot be considered the relevant object until the process of creation has reached its inherent endpoint or culminated in the sense of Parsons (1989)": for example, *yi-ge yuan-quan* 'a circle' in a

drawing event is considered a complete circle only when a full circle is drawn; similarly, *yi-jian fangzi* ‘a house’ in a building event and *yi-ge dangao* ‘a cake’ in a baking event belong to the NPO class; the other type refers to objects that “can be considered the relevant object before culmination”, i.e. APO (“Allows Partial Object”); for example, *yi-fu hua* ‘a picture’ in a drawing event and *yi-feng xin* ‘a letter’ in a writing event belong to the APO class because an object can be conceived as a picture/letter even if only a part of picture/letter is created.

As illustrated in (10), both *yi-fu hua* ‘a picture’ and *yi-ge yuan-quan* ‘a circle’ are the objects of *hua* ‘draw’, but only the APO *yi-fu hua* ‘a picture’ allows a termination understanding, i.e. the event is stopped before its endpoint is attained, whereas the NPO *yi-ge yuan-quan* ‘a circle’ does not (Soh and Kuo 2005).

(10) a. 他画了一幅画，可是没画完 (=2a)

Ta hua-le yi-fu hua, keshi mei hua-wan.  
 He draw-LE one-CL picture but not draw-finish  
 ‘He drew a picture, but he didn’t finish drawing it.’  
 (Soh and Kuo 2005:201)

b. 他画了#一个圆圈，可是没画完

Ta hua-le #yi-ge yuan-quan, keshi mei hua-wan  
 He draw-LE one-CL circle but not draw-finish  
 ‘He drew a circle, but he didn’t finish drawing it.’  
 (Soh and Kuo 2005:201)

While we agree with Soh and Kuo’s (2005) analysis on the bounded property of numeral + CL + N sequences and the unbounded property of bare mass nouns in Mandarin Chinese, we find that the distinction between NPO and APO is not always clear-cut. As noted by Soh and Kuo (2005:214), such a distinction is “related to our knowledge of when a particular object of creation is considered created.” Although an NPO usually “requires the perfective creation event to reach its inherent endpoint (Soh and Kuo 2005: 214),” occasionally an NPO can

allow a terminated event interpretation under an appropriate context, as in (11).

- (11) 他拿起粉笔在黑板上画了一个圈，只是并没有画圆满，  
留下一个缺口。  
ta na-qi fenbi zai heiban-shang hua-le yi-ge quan,  
he grab chalk on blackboard-top draw-LE one-CL circle  
zhishi bing meiyou hua yuanman, liuxia yi-ge quekou  
however at-all NEG draw round.full leave one-CL gap  
'He grabbed a chalk and drew a circle on the blackboard, but the  
circle was not complete at all; left a gap.'  
(<http://www.chinahrd.net/article/2013/02-17/78522-1.html>)

In addition, Soh and Kuo's (2005) analysis cannot be extended to other types of events describing incremental change. Previous works (Tenny 1994, Hay et al. 1999, Kennedy and Levin 2008, Kennedy 2012, among others) generalize that motion events, change of state events and incremental theme events all involve incremental changes of different kinds: motion events involve an incremental change that is measured by a distance of traversed path; change of state events involve an incremental change that is measured by degree of changed property of an object. However, the themes undergoing actual incremental change in motion events and change of state events, i.e. the path traversed and the property of the object, are not necessarily uttered as a part of the sentence. For example, in *the soup cooled for an hour* (Hay et al. 1999: 127), it is not appropriate to analyze the degree to which the "object" is considered to be created, because in this change-of-state example it is the incremental change in the "value" of temperature that is relevant. Thus the criteria concerning whether an object noun denotes an APO or not cannot be applied to the incremental change in motion and change of state events. In addition, even within the incremental theme change events, APO hypothesis cannot be applied to VP with consumption verbs (e.g. *chi* 'eat') or affection verbs (e.g. *kan* 'read') as in (2b-c).

Furthermore, although Soh and Kuo (2005) treat *hua yi-fu hua* ‘draw one/a picture’ as an accomplishment when *yi* is the numeral ‘one’, and as a non-accomplishment which has dual interpretations between [-b] and [+b] when *yi* is the indefinite determiner ‘a’, we still cannot classify predicates which have both [-b] and [+b] properties into any of the existing classes within the traditional aspectual classification system: for example, such predicates cannot be identified as accomplishments, activities, achievements, semelfactives or states.

In what follows, we provide an alternative explanation which can better account for the dual interpretations of the incremental V + *yi* + CL + N sequence. We will provide a comprehensive and systematic account of the aspectual properties of incremental theme verbs and the three types of argument NPs, following recent studies on scale structure (Kennedy 2012, Kennedy and Levin 2008, among others).

### 3. THE SCALAR PROPERTY OF INCREMENTAL THEME V+NP SEQUENCES IN MANDARIN CHINESE

According to Rappaport Hovav and Levin (2010: 28), a scale is a “set of degrees—points or intervals indicating measurement values on a particular dimension (e.g., height, temperature, cost), with an associated ordering relation [...] A scalar change in an entity involves a change in value of this attribute in a particular direction along the scale, with the direction specified by the ordering relation”: for example, the verb *dry* lexicalizes a scalar change; the scale has ordered values of the attribute dryness, and a drying event involves an increase in the value of dryness; in addition, the verb *dry* expresses a scalar change that has an inherent endpoint, i.e. the degree where an object is totally devoid of moisture. We will call such verbs that lexicalize scales with inherent endpoints “closed-scale verbs” (cf. Kennedy and McNally 2005). According to whether the scales are composed of multiple points with measurement values or only two points, verbs lexicalizing closed scales can also be divided into two types (Rappaport Hovav and Levin 2010, among others). We can call the first type “multi-point closed-scale verbs” and the latter “two-point

closed-scale verbs” (cf. Rappaport Hovav and Levin 2010, and see Lin and Peck 2011 and Peck et al. 2013 for Mandarin Chinese).<sup>13</sup> This notion of multi-point closed-scale verbs is not equivalent to the traditional notion of accomplishments; rather, multi-point closed-scale verbs subsume accomplishments. We will elaborate on this point in more detail in section 3.2.

There is also a group of verbs that denotes scalar change without inherent endpoints (Hay et al. 1999, Kennedy and Levin 2008, Rappaport Hovav and Levin 2010): for example, *cool*, *widen*, and *lengthen* are scalar verbs because these verbs express changes on particular dimensions, i.e. temperature, width, and length respectively, but the changes these verbs denote do not have to reach an endpoint because there is no endpoint on the scales they lexicalize. We call these verbs “open-scale verbs” following Hay et al. (1999) and Rappaport Hovav and Levin (2010) (cf. Kennedy and McNally 2005).<sup>14</sup> Open-scale verbs can co-occur with *for*-adverbials that are only compatible with atelic events (Hay et al. 1999: 127) as in (12). By default, open-scale verbs produce atelic interpretations.<sup>15</sup>

(12) The soup cooled *for an hour*.

Due to these properties that they denote scalar change and they are atelic by default, open-scale verbs are neither activities nor accomplishments: thus, they should form an independent aspectual class (see more discussion in Lin and Peck 2011, Peck et al. 2013).

### 3.1 The aspectual property of incremental theme verbs

In contrast to closed-scale verbs and open-scale verbs, activity verbs denote non-scalar changes. The change denoted by an activity verb is not associated with any specific scale, i.e. a single attribute (Rappaport Hovav and Levin 2010): for example, a sequence of changes described by the verb *jog* cannot be understood as the values of a single attribute; such a change can lead to a wide range of results; for example, a person who

jogs might become tired, excited, or sick; in contrast, the scalar change denoted by *dry* only leads to a result relevant to dryness; because non-scalar changes are not associated with values of a single attribute, non-scalar changes are not measurable, in contrast to scalar changes.

Just like activity verbs which express non-scalar changes, incremental theme verbs describe non-scalar changes according to recent findings (Piñón 2008, Rappaport Hovav 2008, Rappaport Hovav and Levin 2010, Kennedy 2012). Rappaport Hovav (2008:23) shows that English incremental theme verbs such as *read* show exactly the same syntactic pattern with activity verbs in the diagnostics that test whether a given verb lexicalizes a scale or not: only verbs denoting scalar change do not allow object deletion (13a) and are not compatible with a construction where another DP replaces the normal direct object (13b-c). In contrast, the incremental theme verb *read* is compatible with these conditions (14).

- (13) a. All last night we cooled \*(the room with the air-conditioner).  
b. \*We cooled the people out of the room with the air-conditioner on too high.  
c. \*The air-conditioner in our office outcooled the air-conditioner in the next office. (Rappaport Hovav 2008: 23)
- (14) a. John read.  
b. John read us all to sleep.  
c. John outread Mary. (Rappaport Hovav 2008:23)

Similar to English incremental theme verbs, in events expressing incremental theme changes in Mandarin Chinese, the verbs alone express activities, i.e. non-scalar changes. Previous studies (Rappaport Hovav 2008, Lin and Peck 2011) have observed that non-scalar verbs are usually compatible with a wide range of result phrases, whereas verbs denoting scalar changes can only co-occur with a limited range of result phrases, usually the result phrases that further specify endpoints on the relevant scales. Based on such a criterion, we can test if Chinese incremental theme verbs describe non-scalar changes. As illustrated in (15),

incremental theme verbs, e.g., *xie* ‘write’, are compatible with a variety of result phrases that are not limited only to the amount of the written material; the same syntactic distribution is found with non-scalar change verbs, e.g., the activity verb *pao* ‘run’ in (16). On the contrary, the scalar change verbs, e.g., an open-scale verb *jiang* ‘decrease’ in (17) can only take result phrases elaborating on the endpoint in the dimension of temperature.

(15) a. 她写坏了两支笔

Ta xie huai-le liang-zhi bi  
3<sup>rd</sup> write broke-LE two-CL pen

‘She wrote and as a result, two pens were broken.’

b. 她写清楚了所有条款

Ta xie-qingchu-le suoyou tiaokuan  
3<sup>rd</sup> write-clear-LE every item

‘She wrote and as a result, all items became clear.’

c. 她写完了一封信

Ta xie-wan-le yi-feng xin  
3<sup>rd</sup> write-complete-LE one-CL letter

‘She finished writing a letter.’

(16) a. 她跑累了

Ta pao-lei-le  
she run-tired-LE

‘She is tired as a result of running.’

b. 她跑丢了鞋子

Ta pao-diu-le xiezi  
she run-lose-LE shoe

‘She lost the shoes as a result of running.’

c. 她跑到了学校

Ta pao-dao-le xuexiao  
she run-arrive-LE school

‘She ran to the school.’ (Peck et al. 2013:682)

- (17) a. ??气温降坏了我的心情  
 Qiwen      jiang-huai-le      wo de xinqing  
 Temperature decrease-ruin-LE 1<sup>st</sup> DE mood  
 (intended) ‘My mood was ruined as a result of the decreasing of the temperature.’
- b. ??气温降死了那棵树  
 qiwen      jiang-si-le      na-ke shu  
 temperature decrease-dead-LE      that-CL tree  
 (intended) ‘The tree died as a result of the decreasing of the temperature.’
- c. 气温降到了零下十度  
 Qiwen      jiang-dao-le      ling-xia      shi-du  
 Temperature decrease-arrive-LE zero-below ten-degree  
 ‘The temperature decreased to minus ten degrees.’  
 (Peck et al. 2013:673)

As illustrated above, incremental theme verbs alone denote non-scalar changes. Therefore, in incremental change events expressing scalar change, argument NPs should determine the scalar property of the events as well as the telicity of the events (Kennedy 2012: 108).<sup>16</sup>

### 3.2 The scalar feature of incremental theme argument NPs

The notion “measure of change” was originally introduced in Kennedy and Levin (2008:19) to analyze the telicity denoted by scalar change verbs such as change of state verbs. The measure of change function “measures the difference between the degree to which an object manifests a property at the beginning and the end of an event” (Kennedy 2012: 109). For example, (18a) expresses that the change in the width of the canyon between the beginning and the end of the event is 30 kilometers, and the event has a telic interpretation because the degree of change has a maximum standard to meet, namely 30 kilometers; (18b) expresses that there was some increase in the width of the canyon between the beginning and end of the event, and the event has an atelic



interpretation because the degree of change has a minimum standard to meet, i.e. as long as there is some increase in the width of the canyon, the event description is considered as true.

- (18) a. The canyon widened *30 kilometers* in/?? for one million years.  
(Kennedy 2012: 107)
- b. The canyon widened for/?? in one million years.  
(Kennedy 2012: 107)

The measure of change function is a “differential measure,” in contrast to the regular measure function, which “measures the *absolute* degree to which an object manifests some scalar property (Kennedy and Levin 2008:23, Kennedy 2012:109).” The examples in (19) with a comparative construction convey this idea straightforwardly: the measure of change function measures the differential value in the width of the canyon between the beginning and the end of event.

- (19) a. The canyon became 30 kilometers wider (than it was).  
(Kennedy 2012: 108)
- b. The canyon became wider (than it was).  
(Kennedy 2012: 108)

As shown earlier, incremental theme verbs denote non-scalar changes, and the scalar property of an incremental theme V+NP sequence is determined by that of argument NPs. The notion measure of change function was later further applied to analyze scalar properties of incremental theme argument NPs by Kennedy (2012). In the rest of this section, following Kennedy (2012), we will show how the measure of change function is encoded in different types of Chinese NPs, including NPs modified by numeral-classifiers (*san-ge* ‘three-CL’, *yi-ge* ‘one-CL’), NPs modified by indefinite determiner-classifiers (*yi-ge* ‘a/certain’) and NPs formed by bare nouns.

### 3.2.1 Analysis of incremental theme V + numeral + CL + N

The first type of incremental theme NP we analyze consists of nouns modified by a numeral-CL. The examples in (20) are repeated from (3).

- (20=3) a. 他画了#两幅画，可是没画完。  
Ta hua-le #liang-fu hua, keshi mei hua-wan  
He draw-LE two-CL picture but not draw-finish  
'He drew two pictures, but did not finish drawing.'  
(Soh and Kuo 2005: 205)
- b. 他吃了#两个蛋糕，可是没吃完。  
Ta chi-le #liang-ge dangao, keshi mei chi-wan  
He eat-LE two-CL cake but not eat-finish  
'He ate two cakes, but he did not finish eating them.' (Soh and Kuo 2005: 204)
- c. 他看了#两本书，可是没看完。  
Ta kan-le #liang-ben shu, keshi mei kan-wan  
He read-LE two-CL book but not read-finish  
'He read two books, but he did not finish reading them.'  
(Soh and Kuo 2005: 204)

Kennedy (2012:117) assumes that the measure of change function is introduced by the semantics of incremental argument NPs, specifically "the referential properties of the incremental theme argument (Kennedy 2012:104)". For example, in (21), the degree of change in the amount of consumed dumplings between the beginning and the end of the event has to meet the maximal value, i.e. 10;

- (21) Kim ate 10 dumplings (in/?? for 30 seconds).  
(Kennedy 2012: 115)

As in (21) if an incremental change has to reach a maximal degree, then the given VP will have a telic interpretation by default.

While (21) shows English incremental theme NPs with a count noun 'dumpling', for mass nouns such as *sushi* in *eat two pieces of sushi*,

the measure of change function is argued to be encoded in the measure phrase *two pieces*, external to the head noun *sushi* (Kennedy 2012:118). Since nouns are basically mass nouns in Mandarin Chinese (Chierchia 1998), we assume that for Chinese incremental theme argument NPs, the measure of change function is encoded in the modifiers of the head nouns in the argument NPs following Kennedy (2012).

With the modifier *liang-fu* ‘two-CL,’ the NPs in (20) “encode measure of change functions whose scales also include maximal degrees (Kennedy 2012: 111).” In other words, an event described in (20) is true only if the theme undergoes a scalar change to a maximal degree of ‘two,’ as specified in NPs by the numeral-classifier such as *liang-fu hua* ‘two-CL picture,’ *liang-ge dangao* ‘two-CL cake,’ or *liang-ben shu* ‘two-CL book.’ Thus the examples in (20) all result in a telic interpretation. By denoting a durative, telic and scalar change, the incremental theme V + numeral + CL + N sequence expresses a multi-point scalar change event.

### 3.2.2 Analysis on incremental theme V + yi + CL + N

As pointed out by previous works (Tai 1984, Smith 1994, Soh and Kuo 2005, among others), the incremental theme V + yi + CL + N sequence can yield either completion or termination interpretations. The relevant examples are repeated below.

- (22=1) a. 他画了一幅画，第二天交给了老师。  
 Ta hua-le yi-fu hua, di-er tian jiao-gei-le laoshi  
 3rd draw-LE one-CL picture, 2<sup>nd</sup> day turn-to-LE teacher  
 ‘He drew one picture/a certain picture, and turned it in to his teacher on the next day.’
- b. 他吃了一个蛋糕，所以少了一个蛋糕。  
 Ta chi-le yi-ge dangao, suoyi shao-le yi-ge dangao  
 3<sup>rd</sup> eat-LE one-CL cake, thus decrease-LE one-CL cake  
 ‘He ate one cake/a certain cake, thus now there is one less cake.’
- c. 他看了一本书，把里面的故事都记住了。

Ta kan-le yi-ben shu, ba limian de gushi dou jizhu-le  
 3<sup>rd</sup>read-LE one-CL book, BA inside DE story all memorize-LE  
 ‘He read one book/a certain book, and memorized all the stories  
 in the book.’

- (23=2) a. 他画了一幅画，可是没画完  
 Ta hua-le yi-fu hua, keshi mei hua-wan.  
 He draw-LE one- CL picture but not draw-finish  
 ‘He drew #one picture/a certain picture, but he didn’t finish  
 drawing it.’ (Soh and Kuo 2005: 205)
- b. 他吃了一个蛋糕，可是没吃完  
 Ta chi-le yi-ge dangao, keshi mei chi-wan.  
 He eat-LE one- CL cake but not eat-finish  
 ‘He ate #one cake/a certain cake, but he did not finish eating  
 it.’ (Soh and Kuo 2005: 204)
- c. 他看了一本书，可是没看完  
 Ta kan-le yi-ben shu, keshi mei kan-wan.  
 He read-LE one- CL book but not read-finish  
 ‘He read #one book/a certain book, but he did not finish  
 reading it.’ (Soh and Kuo 2005: 204)

Such dual telicity of the incremental theme V + yi + CL + N sequence can be better characterized by the notion of multi-point closed scalar change, rather than the traditional notion of accomplishment. According to Rappaport Hovav (2008:28), multi-point closed-scale verbs do entail “some” but not “maximal” change in the past tense even though these verbs lexicalize inherent endpoints, as exemplified by the multi-point closed-scale verb *empty* in (24).

- (24) I empty the dishwasher a little and do one set ... empty it some more and do one more set ... (Rappaport Hovav 2008:28)

Following the evidence above, Kennedy (2012:107) further argues that English multi-point closed change verbs have “the default telic interpretation,” but this telic interpretation is “not obligatory.” For

example, *dry* is a multi-point closed-scale verb and hearers usually assume that the shirt is dry when hearing the first part of the sentence in (25a); at the same time, *dry* is compatible with an atelic interpretation and the lexicalized maximal value for scalar change may not be met sometimes, as in (25b).

- (25) a. The shirt dried (?? but it didn't become dry).  
(Kennedy 2012: 107)
- b. The shirt dried on the line for a few minutes (but was then soaked by a passing shower). (Kennedy 2012: 107).

Above in section 3.2, we introduced that if a scalar change has a maximum standard, then the given event would have a telic interpretation, and if a scalar change has a minimum standard, then the given event would have an atelic interpretation. But in addition, based on examples in (25a-b), Kennedy (2012:111) claims that for multi-point closed-scale verbs that have a maximum standard, “the maximum standard/telic interpretation entails the minimum standard/atelic one.” If a scalar change normally has the maximum standard, then a completion reading and a termination reading are both allowed depending on the context, as shown in the cases of (25a) and (25b) respectively. We follow Kennedy (2012:111) and argue that the notion of multi-point closed-scale subsumes the traditional notion of accomplishment which only allows a telic interpretation.

Following Kennedy (2012), we argue that regardless of whether *yi* refers to a numeral ‘one’ or an indefinite determiner ‘a’, nouns modified by *yi* + CL denote an event which is durative, scalar and telic, i.e. a multi-point closed scalar change event. The dual telic interpretations of V + *yi* + CL + N sequence are well accommodated by the notion of multi-point closed scalar change. For example, for the event described by V + *yi* + CL + N, a telic interpretation is by default: the total amount of a theme created, consumed and affected will be understood as the amount specified by the numeral *yi* ‘one’ by default as in (22). However, an event expressed by a V + *yi* + CL + N sequence can be understood as involving

some part of a theme being created, consumed or affected, when a termination reading is specified by a clause like those introduced by *but* as in (23a-c).

Our treatment of analyzing even the case where *yi-ge* (one-CL) functions as an indefinite determiner ‘a’ as denoting a scalar change with a maximum standard is motivated by Kennedy’s analysis of individual denoting NPs. For the interpretation of an individual denoting NP without an explicit degree term, such as *eat Mr. Unagi*, Kennedy (2012:120) argues that a telic interpretation is preferred (26a), but an atelic interpretation is also possible as in (26b):

- (26) a. I ate Mr. Unagi in 30 seconds flat.  
b. I ate Mr. Unagi for a few minutes, then decided to switch to tofu.

### 3.2.3 Analysis on incremental theme V + bare N

The third type of data in our analysis is the incremental theme V + bare N sequence such as *kan shu* ‘read book’ and *chi xuegao* ‘eat ice cream.’ According to Kennedy (2012: 112) if the incremental change merely has to meet a minimal standard of comparison (i.e. an event requiring only some amount of change), then the given VP has an atelic interpretation by default. (27) describes scalar change events that do not have a maximal value to meet. As long as there is some change in the volume of objects that are affected/consumed/created between the beginning and the end of the event, the event is considered as true. (Kennedy 2012: 112).

- (27) a. Kim ate dumplings (for/?? in 30 seconds). (Kennedy 2012: 116)  
b. Kim ate sushi (for/?? in 30 seconds). (based on Kennedy, 2012: 118)

For English, which has a count/mass distinction for nouns, the plural form *dumplings* and the bare form *sushi* make the degree of change to meet a minimal standard. In other words, the sentence expresses that

there was some increase, but an unspecific one, in the consumed amount of food (Kennedy 2012:104, 118).

Following Kennedy's analysis of the plural form of count nouns and the bare form of mass nouns in English, we argue that in Chinese, incremental V + bare N sequences such as those in (4) (repeated here as (28)) denote open-scale changes which are durative, atelic and scalar.

(28=4) a. 昨天画画没画完, 今天继续。

zuotian hua hua mei hua wan, jintian jixu  
yesterday draw picture NEG draw finish today continue  
'Yesterday [I] drew pictures but didn't finish drawing; [i] will continue today.' (<http://bbs.tianya.cn/post-free-1979389-1.shtml>)

b. 大宝吃雪糕, 没吃完, 我吃剩下的。

dabao chi xuegao ,mei chi wan, wo chi shengxia de  
big.baby eat ice.cream NEG eat finish I eat rest NOM  
'My elder child ate icecream but didn't finish eating; I ate the rest.' (<http://www.yi4all.com/?cat=51>)

c. 昨晚看书没看完。

zuowan kan shu mei kan wan  
last.night read book NEG read finish  
'I read books last night, but didn't finish reading.'  
(<http://tieba.baidu.com/p/2039305962>)

Chinese V + bare N sequences (28=4) denote open-scale changes. First, an atelic meaning is obtained because the scalar changes described in such sequences do not have a maximal value to meet. According to Dowty (1979), an atelic predicate in the progressive entails the truth of the sentence with a verb in the simple past form. The progressive entailment test (29a) and the ungrammaticality yield by the modification of *in*-adverbials (29b) illustrate that a change described in the incremental theme V+bare N sequence *kan shu* 'read books' (28c) describes an atelic event (also see Soh and Kuo 2005:206).<sup>17</sup>

- (29) a. 我在看书 > 我看书了  
 Wo zai kan shu > wo kan shu le  
 1<sup>st</sup> PROG read book 1<sup>st</sup> read book LE  
 ‘I am reading books’ ‘I have read books’
- b. \*他一天内看书了。  
 \*Ta yi tian nei kan shu le  
 3<sup>rd</sup> one day inside read book LE  
 ‘?He read books in one day.’

Second, we argue that unlike incremental theme verbs alone which denote non-scalar change such as *xie* ‘write’ in (15), incremental theme V + bare N sequences such as *xie xin* ‘write letter,’ *kan shu* ‘read book,’ and *chi xuegao* ‘eat icecreame’ express scalar changes. For example, in *xie xin* ‘write letter,’ the scale provided by its incremental theme *xin* ‘letter’ is associated with the length of the letter written, i.e. a quantity scale (Fleischhauer and Gamerschlag 2014). Therefore, it is expected that *xie xin* ‘write letter’ would be compatible only with complements that further elaborate on the length of letter. This accounts for why result complements that describe the completion of creation such as *wan/hao* ‘finish’ are found naturally with *xie xin*, as in (30).

- (30) a. 他写完了信  
 Ta xie-wan-le xin  
 3<sup>rd</sup> write-complete-LE letter  
 ‘He finished writing letters.’
- b. 他写好了信。  
 Ta xie-hao-le xin  
 3<sup>rd</sup> write-well-LE letter  
 ‘He completed writing letters.’

In contrast, *xie xin* ‘write letter’ cannot directly take result phrases that do not further elaborate on an endpoint on a quantity scale, as illustrated in (31a, 32a). In order to be compatible with result phrases



that are irrelevant with the quantity scale, the verb *xie* has to be reduplicated as in the (b) examples in (31) and (32).

- (31) a. \*他写信累了  
Ta xie xin lei le  
3<sup>rd</sup> write letter tired LE  
b. 他写信写累了  
Ta xie xin xie-lei le  
3<sup>rd</sup> write letter write-tired LE  
'He became tired as a result of letter-writing.'
- (32) a. \*他写信坏了两支笔  
Ta xie xin huai-le liang-zhi bi  
3<sup>rd</sup> write letter broke-LE two-CL pencils  
b. 他写信写坏了两支笔  
Ta xie xin xie-huai-le liang-zhi bi  
3<sup>rd</sup> write letter write-broke-LE two-CL pencil  
'He broke two pencils as a result of letter-writing.'

Based on the observations and criteria provided above, we identify incremental theme verbs such as *xie* 'write' as activities which are durative, atelic and non-scalar change, and VPs with bare nouns such as *xie-xin* as open-scale changes which are durative, atelic and scalar change. As a corollary, we argue that the incremental verbs alone and V + bare N sequences should be analyzed as two different aspectual classes, in contrast to previous studies where incremental V + bare N sequence such as *du shu* 'read book', *xie xin* 'read letter' and *he jiu* 'drink wine' and incremental theme verbs such as *du* 'read', *xie* 'write' and *he* 'drink' have been equally treated as activities (Chen 1988:409, Teng 1985, Xiao and McEnery 2004:48, 56).

#### 4. CONCLUSION

In this paper, we analyzed the scalar properties of incremental theme VPs in Mandarin Chinese from the perspective of scale structure.

We showed that, like in English, Chinese incremental theme verbs are activity verbs that do not lexicalize scalar change. Rather, the scalar properties of incremental theme VPs are determined by that of argument NPs. Specifically, we showed that the telicity of argument NPs is determined by the type of modifier of the noun: when a noun is modified by a numeral or *yi* (either as the numeral ‘one’ or the indefinite determiner ‘a’), the sequence denotes an event of multi-point closed scalar change. These expressions denote durative events as it takes a certain amount of time for an agent to create, consume, or affect the maximally fixed volume/quantity of the incremental theme. In this sense, Chinese does have true accomplishment expressions in the form of V + NP that denote both an action and a result. Multi-point closed scalar change allows dual telic interpretations, i.e., a telic reading by default, or an atelic reading under an appropriate context: by doing so, this new notion subsumes the traditional notion of accomplishments. We also showed that in contrast to previous studies, incremental theme verbs belong to activities, whereas incremental theme V + bare N sequences denote open-scale changes which give an atelic interpretation by default.

Compared with Soh and Kuo’s (2005) analysis, where an APO modified by the indefinite determiner *yi-ge* (‘a’) has to be treated as an exceptional case which is allowed to behave differently from the traditional notion of accomplishments, our scalar analysis can accommodate the dual telic behavior of APOs, and also that of NPOs (e.g. the atelic interpretation off *yi-ge quan* (one-CL circle) in (11)). Furthermore, within our approach the dual functions of *yi-ge* ‘one-CL’ as numeral ‘one’ and an indefinite determiner ‘a’ do not have to be separately analyzed.

Our scale-structure-based analysis provides a unified and more comprehensive account of the aspectual properties and syntactic behaviors of Chinese incremental theme VPs. Our findings also demonstrate that in addition to the domain of motion (Lin and Peck 2011, cf. Rappaport Hovav and Levin 2010) and the domain of change of state (Peck et al. 2013, cf. Rappaport Hovav and Levin 2010, Kennedy and

Levin 2008), the scalar approach can also be properly extended to the analysis of incremental change in Mandarin Chinese.

## NOTES

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<sup>2</sup> Correspondence author

<sup>3</sup> We assume that like English, Chinese has three types of verbs that appear with an incremental theme following Kennedy (2012: 103) and use these three types in our examples in this study, i.e. verbs of creation such as *hua* ‘draw/paint’ and *xie* ‘write’, verbs of consumption such as *chi* ‘eat’ and *he* ‘drink’, and verbs of affect such as *kan* ‘read’ and *qi* ‘paint’ (in wall-painting events).

<sup>4</sup> The termination interpretation is possible when *yi-* carries the meaning of the indefinite article ‘a’ but not the numeral ‘one’, hence the infelicity of the translation as *one picture*. For Soh and Kuo (2005)’s analysis, see section 2.2.

<sup>5</sup> Note that the terms “telicity”, “boundedness,” “endpoint,” and “result” are sometimes used interchangeably by many scholars. In order to avoid any potential confusion, we maintain the terms used in the original works when introducing these works. In this work, we follow the definition that “telicity is a function of the scalar properties of a particular element of the meaning of degree achievements: a function that measures the degree to which an object changes as a result of its participation in an event (Kennedy 2012: 105).”

<sup>6</sup> In Mandarin Chinese, the verb *hua* can be used to express either ‘draw’ or ‘paint’ in an event involving the creation of pictures. Due to this reason, previous works that we cite here alternate between ‘paint’ and ‘draw’ in glosses and translations for *hua*. We follow the original translations when quoting previous works and due to this reason, we also alternate between ‘paint’ and ‘draw’ in this study.

<sup>7</sup> Examples similar to (2-3) have been discussed by many scholars. Here we cite examples taken directly from Soh and Kuo (2005), one of many previous works discussing this topic.

<sup>8</sup> The original work (Soh and Kuo 2005) does not mark English translations with #. However, we added # mark in the translations to reflect that the Chinese sentences are not acceptable.

<sup>9</sup> The glosses of the examples in (5-7) are given by this paper. The original work (Tai 1984) does not provide glosses in the examples.

<sup>10</sup> Smith (1994:112-113) argues that in contrast to English, for Mandarin Chinese “there are two types of closure for durative events, [...] accomplishments are completed or terminated, while activities may only be terminated [...] if we know only that an accomplishment is closed, we cannot conclude that it is complete; the situation may merely be terminated, without having reached the final endpoint.”

<sup>11</sup> It is a widely-applied diagnostic for telicity that an atelic predicate is naturally modified by *for*-adverbials, whereas a telic predicate tends to be modified by *in*-adverbials (Dowty 1979, Vendler 1967:101 for English, Xiao and McEnery 2004: 47 for Mandarin).

<sup>12</sup> Soh and Kuo (2005: 205-206), following Jackendoff (1991)’s universal feature specification of boundedness, state that the property of “±bounded” ([±b]) refers to whether an entity has conceptual boundaries or not. In this sense, an entity that is [-b] is not necessarily “unbounded in space”, that is, it could be bounded in reality (Soh and Kuo 2005: 205). In English, an individual such as *a pig* and a group such as *a committee* are [+bounded], whereas substances such as *water* and aggregates such as *buses* are [-b]. As for Mandarin Chinese, Soh and Kuo (2005) point out that all Chinese bare nouns are mass, i.e. [-b], following Chierchia (1998).

<sup>13</sup>For example, verbs such as *dry*, *empty*, and *flat* denote a scalar change where the theme goes through multiple points along the scale of a particular property. On the contrary, some closed scales consist of only two points. For example, verbs such as *arrive*, *reach*, *crack*, and *die* lexicalize a scale with only two values, i.e. having or not having a particular property (Rappaport Hovav and Levin 2010, Beavers 2008). A verb with a multi-point scale is [+durative] because it usually takes time to go through the points on a scale, whereas a verb with a two-point scale is [-durative] because going through a two-point scale is usually understood as instantaneous (cf. Beavers 2008).

<sup>14</sup> These verbs are also traditionally called “degree achievement verbs” (Dowty 1979: 88).

<sup>15</sup> Meanwhile, open-scale verbs/degree achievement verbs might also be found naturally with *in*-adverbials that are only compatible with telic events as in (i) (Hay et al. (1999: 127, (4)). Such a telic interpretation is available when an appropriate context is provided for readers or hearers. For example, for the case of (i), the soup is understood as having cooled down to room temperature. (i) The soup cooled *in* an hour.

<sup>16</sup> It is widely known that that the telicity of incremental theme events is influenced by the telic property of their NP arguments (Verkuyl 1972, Dowty 1979, Krifka 1989, 1992, Soh & Kuo 2005).

<sup>17</sup> Meanwhile, V + bare N sequences might allow a telic interpretation under an appropriate context. A theme expressed by bare noun can be understood as

referential known to both speakers and hearers. Compare example (i) with the example given in the endnote no.15.

(i) 职业道德的题目，看了书还是不会做。

Zhiye daode de timu, kan le shu haishi bu hui zuo  
Profession ethic DE question read LE book yet NEG can solve  
'those questions about work ethic, [I] didn't know how to solve [them]  
even after reading the book.' (<http://www.sanxiaomingshi.com/ask/q-178.html>)

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#### 汉语客体量变动词短语的层级分析

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##### 提要

汉语中表达客体量变的结构“动+一+量+名”可表达“完结”和“中止”两种意义。本文认为该类结构描述的是多点闭合层级变化(multi-point closed scalar change) (e.g. Rappaport Hovav and Levin 2010等), 该变化属于一种新的情状类型, 且包含传统的完结类事件(accomplishments) (e.g. Vendler 1957)。此外, 基于近年来学者对英语中客体量变名词短语的分析(Kennedy 2012), 本文指出汉语中表达客体量变的动词短语的“完结”或“中止”意由该结构中论元名词短语的层级特征(scalar feature)决定。本文还指出, 与前人研究相比, 本文的层级分析不但能系统地解释客体量变, 也能被应用到其他变量事件中(即位移量变和状态变化量变)。

关键词: 完结事件, 论元名词短语, 客体量变, 多点闭合层级变化, 开放层级变化