ON THE ASPECTUAL VALUES OF GRADABLE ADJECTIVAL PREDICATES IN MANDARIN CHINESE

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Abstract

In Mandarin Chinese, gradable adjectival predicates (e.g., *shou* 'thin') can have different aspectual readings depending on the linguistic environments in which they appear. This paper provides a syntactic account of such predicates' different aspectual readings. It proposes that (1) such predicates contain a [α dynamic] feature that needs to be valued under a syntactic operation, and (2) there are several different functional elements that can give the feature a value. For example, it receives a [-] value and has a stative reading because of a degree adverbial like *HEN* 'very,' which contains a [-dynamic] feature. To account for the telic reading, this paper posits that a coercion process is involved. The proposed analysis shows that a syntactic account is as plausible as a lexical one.

1. Introduction

A unique characteristic of gradable adjectival predicates in Mandarin Chinese (henceforth, MC) is that they can have different aspectual values depending on the linguistic environment in which they appear. The sentences in (1) depict this characteristic.

(1) a. Lisi *HEN* shou.   (stative)
         Lisi very thin
         'Lisi is very thin.'
     b. Lisi shou-le ban nian, (tizhong you huilai le).   (atelic)
         Lisi thin-Prf half year weight again return LE
         'Lisi had thinned for half a year (and gained some weight later on).'
     c. Lisi zai yi ge yue   nei shou-le   san gongjin.   (telic)
         Lisi at one CL month within thin-Prf three kilogram
         'Lisi became three kilograms lighter in one month.'
     d. Lisi chi-shou-le wode hebao.   (telic)
         Lisi eat-thin-Prf my   wallet
         'Lisi ate so much that he made me poor.'

In (1a), the predicate *shou* 'thin' is modified by the adverbial *HEN* 'very,' thereby producing a stative reading.[1] In (1b), the predicate has an eventive and atelic reading, as it is modified by the durative adverbial *ban nian* '(for) half a year.'[2] However, in (1c), the same predicate is read as eventive and telic. Finally, in (1d), the predicate functions as a resultative complement and has a telic reading.

        To account for the different aspectual values, one may simply assume that the grammatical category of an adjectival predicate, such as *shou* 'thin' in MC is ambiguous

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[1] The adverbial *hen* literally means 'very'; however, it has the meaning of 'very' only when it is stressed. Otherwise, it simply has a functional usage (or is semantically bleached), as suggested by Li & Thompson (1981) and Lü (1982). In this study, I use *HEN* to represent the degree adverbial and *hen* for the semantically bleached one.

[2] Abbreviations: CL = classifiers; *le* = the perfective aspect suffix; LE = sentence-final particle *le*; DE = the particle *de*.

1 (e.g., Li & Thompson 1981). An adjectival predicate can either function as a gradable
2 adjective, as in (1a), or a verb, as in (1b). As a gradable adjective, it can be modified by the
3 degree adverbial *HEN* 'very.' In contrast, as a verb, it can be modified by the durative
4 adverbial *ban nian* '(for) half a year.' However, this approach cannot explain the two
5 different aspectual values shown in (1b-c), as one may wonder why there are two different
6 values if *shou* 'thin' functions as a verb in both sentences, unless we want to assume that
7 there are also two verbal homophones, one atelic and the other telic. Under this assumption,
8 there are three homophones in the lexicon: one adjective, one atelic verb, and one telic
9 verb. This kind of approach does not seem to be economical. Moreover, the fact that the
10 predicate can have both stative and telic readings as the main predicate—as illustrated in
11 (1a) and (1c)—but can have only a telic reading as the secondary predicate—as shown in
12 (1d)—seems to suggest that syntax also plays a role in determining the aspectual value of
13 gradable adjectival predicates.
14   Thus, in this study, I present an alternative explanation to account for the different
15 aspectual readings of a gradable adjectival predicate. Instead of adopting a pure lexical
16 approach, I illustrate that the differences observed in the aspectual values of the predicate in
17 (1) are mainly owed to syntax. Following Verkuyl (1993) and Smith (1997), I assume that
18 situation types contain distinctive temporal features, whereas the [+dynamic] feature
19 distinguishes an event from a state. Events, including activities, accomplishments, and
20 achievements are dynamic. In contrast, states are static and, therefore, non-dynamic.
21   Following Slabakova (2001), I claim that the temporal features contained in
22 situation types can be realized under a syntactic operation. To account for the different
23 aspectual readings in (1), I propose that a gradable adjectival predicate in MC, such as *shou*
24 'thin,' contains a [α dynamic] feature that embodies a value determined by several different
25 functional elements. For example, I demonstrate that the predicate in (1a) has a stative
26 reading because the adverbial *HEN* 'very' contains a [-dynamic] feature and can give a [-]
27 value to the predicate. Conversely, the atelic reading in (1b) is owed to an atelic morpheme
28 that assigns a [+] value to the [α dynamic] feature of the predicate. Finally, based on De
29 Swart (1998), I conclude that a coercion process causes the telic reading of (1c) and (1d).
30 Consequently, this analysis demonstrates that a syntactic account is as plausible as a lexical
31 one.
32   The remainder of the paper is organized as follows. In Section 2, I discuss some
33 general linguistic properties of gradable adjectival predicates in MC. In Section 3, I present
34 the study's theoretical background. In Section 4, I describe the proposal and analyses.
35 Finally, in Section 5, I conclude the paper.
36
37 **2. Properties of gradable adjectival predicates in Mandarin Chinese**
38 *2.1 Stative and dynamic readings*
39 When an adjectival predicate is modified by a degree adverbial, such as *HEN* 'very' in (1a),
40 it has a stative reading; however, this is not the only linguistic environment in which the
41 predicate can be read as stative. For example, according to Liu (2010) and Grano (2012),
42 there are several other linguistic environments in which an adjectival predicate embodies a
43 stative value. The following examples in (2) illustrate this argument.
44

(2)   a.   Zhangsan gao.   Comparison
             Zhangsan tall
             'Zhangsan is taller.'

        b.   Zhangsan gao ma?   Polar question
             Zhangsan tall Q
             'Is Zhangsan tall?'

        c.   Zhangsan bu gao.   Negation
             Zhangsan not tall
             'Zhangsan is not tall.'

        d.   Zhangsan gao bu gao?   A-not-A question
             Zhangsan tall not tall
             'Is Zhangsan tall?'

In (2a), the predicate is not modified by any element and has a comparative reading. In (2b), the sentence contains the interrogative particle *ma* and is a polar question. In (2c), the predicate is negated by the negative morpheme *bu* 'not.' Finally, in (2d), the predicate receives a stative reading in an A-not-A question containing the negative morpheme *bu*. In addition to a stative reading, a gradable adjectival predicate can also have a dynamic and atelic reading, as illustrated in (1b). Accordingly, (3) provides an additional example.

(3)   Zhangsan yinwei shoushang de guanxi er pang-le   san ge yue.
           Zhangsan because injury   DE relation then fat-Prf three CL month
           'Zhangsan was fat for three months due to his injury.'

The fact that the predicate can be modified by the durative adverbial 'for X-time' (e.g., Vendler 1967, Smith 1997) suggests that it is not stative. The predicate is compatible with the perfective *-le*, which is generally used to modify a bounded or terminated event (Li & Thompson 1981, Smith 1997). This also suggests that the predicate in (3) is not stative.

Certain other indicators also suggest that the predicate in (1b) or (3) is not stative. For instance, the predicate cannot be modified by a degree adverb, such as *HEN* 'very' in (4a) or *feichang* 'extremely' in (4b), along with a durative adverbial.

(4)   a.   *Zhangsan hen shou san ge yue.
             Zhangsan very thin three CL month
        b.   *Lisi feichang pang ban nian.
             Lisi extremely thin half year

The use of negation morphemes is another indicator suggesting that the predicate in (1b) or (3) is not stative. Observe the examples given in (5).

(5)   a.   *Zhangsan bu pang san ge yue, zhongyu jueding jian fei.
             Zhangsan not fat three CL month finally decided lose weight
        b.   Zhangsan mei pang sang ge yue, ta zhi pang-le liang ge yue.
             Zhangsan not fat three CL month he only fat-Prf two CL month
             'Zhangsan was not fat for three months but two months.'

The morpheme *bu* in (5a) cannot be used to negate the predicates; however, *mei*, which is another negation, may be used to achieve the same objective as (5b). According to Lin (2003), the main difference between the two negation morphemes *bu* and *mei* is that the former is used to negate a state, whereas the latter is used to negate an event. The examples in (5) suggest that *pang* 'fat' in (5b) is an event and not a state.

Finally, a gradable adjectival predicate is compatible with the verb phrase *qilai* 'up-come,' which generally appears immediately after a predicate, as shown in (6).

(6) a. Tianqi re-qilai le. (Lü 1982:442)
Weather hot-up-come LE
'The weather is getting hotter.'
b. Tianqi jianjian nuanhuo-qilai. (Lü 1982:442)
Weather slowly warm-up-come
'The weather is slowly getting warmer.'

According to Lü (1982), the phrase *qilai* 'up-come' can appear after a predicate to express the beginning and continuation of an event or state denoted by the predicate. However, Smith (1997) indicated that only verbs denoting a dynamic event, such as activity and accomplishment, are compatible with the verb *begin*, which indicates an "inception." The fact that this type of predicate can co-occur with this phrase, indicating an inception, suggests that they are events and not states. Section 3 further discusses that the predicate in (6) is a change of state (COS) verb and not an adjective.

Examples (2)-(6) suggest that a gradable adjectival predicate in MC can either have a stative or dynamic (and atelic) reading based on the linguistic environment in which it appears. For example, such predicates have a stative reading when being modified by a degree adverbial (e.g., *feichang* 'extremely') and a dynamic (and atelic) reading when modified by a durative adverbial (e.g., *san ge yue* '[for] three months').

2.2 COS

As (1c) illustrates, the adjective functions as the main predicate and has a telic reading—more specifically, a COS reading. According to Li & Thompson (1981), most adjectives in MC function as verbs; such predicates are called "adjectival verbs." Tham (2013, 2015) gave a more specific definition of such predicates and called them 'deadjectival COS verbs.' According to her, such verbs are derived from adjectives that have the same form. For example, the COS *pang* 'fat' in (1c) is derived from the adjective *shou* 'thin' in (1a); however, due to the general lack of morphological distinctions in MC, there is no morphological difference between the adjective and derived verb.

According to Tham (2013), the adverbial phrase *hen lihai* 'very seriously' can be used to distinguish a COS verb from an adjective that has the same form, as it can modify the degree of a COS verb. For example:

(7) a. Sanmao de toufa bai-de   hen lihai.   (Tham 2013:665)
Sanmao de hair white-DE very serious
'Sanmao's hair turned drastically white.'

  b. Sanmao yi sheng-xia-lai toufa jiu hen bai. (Tham 2013:665)
    Sanmao one born-down-come hair JIU very white
    'Sanmao's hair was very white since birth.'
  c. #Sanmao yi sheng-xia-lai toufa jiu bai-de hen lihai. (Tham 2013:665)
    Sanmao one born-down-come hair JIU white-DE seriously
    'Sanmao's hair turned drastically white the moment he was born.'

1
2 As (7a) illustrates, the predicate *bai* 'white' has a COS reading, as it is modified by the
3 degree adverbial *hen lihai* 'seriously'; in contrast, the same predicate in (7b) is read as
4 stative, as it is modified by the degree adverbial *hen* 'very.' Finally, in (7c), the predicate
5 has a COS reading, as it is modified by *hen lihai* 'seriously'; however, the sentence is
6 infelicitous because the context indicates 'the improbable situation of a baby's hair either
7 turning white or having turned white at birth' (Tham 2013:665).
8   An adjective can also be distinguished from a deadjectival COS verb by using two
9 different negation morphemes. For example:
10

 (8) a. Zhangsan bu pang. (adjective)
    Zhangsan not fat
    'Zhangsan is not fat.'
  b. Zhangsan mei pang. (deadjectival COS verb)
    Zhangsan not fat
    'Zhangsan has not become fat.'

11
12 In (8a) and (8b), *bu* and *mei* are used as negations, respectively. It has been argued that
13 these two negation morphemes can appear with predicates of different event structure
14 categories. For example, Lin (2003) indicated that *bu* is associated with negating the
15 presence of a state, whereas *mei* is associated with negating the occurrence of an event.
16   In addition, deadjectival COS verbs in general can be modified by a measure phrase
17 (MP), such as *shi pang* 'ten pounds.' For example:
18

 (9) a Zhangsan pang-le shi bang.
    Zhangsan fat-Prf ten pound
    'Zhangsan has become 10 pounds heavier.'
  b Zhangsan mei pang shi pang; zhi pang-le wu bang.
    Zhangsan not fat ten pound only fat-Prf   five pound
    'Zhangsan has not become ten pounds heavier but only five pounds.'

19
20 In (9a), the MP *shi bang* 'ten pounds' appears after the COS verb and gives a more specific
21 measurement of the subject's COS. Similarly, this MP can be used in a sentence containing
22 *mei,* as illustrated in (9b).
23   In general, a COS reading is related to the aspectual system; thus, one might wonder
24 if the COS semantics is influenced by other elements, such as the perfective *-le* in (9a) and
25 (9b). The following examples, taken from Lin (2004), depict that the same reading can be
26 achieved without *-le* in some contexts.
27

(10) a. Lisi xiang pang san gongjin.　　(Lin 2004:87)
　　　　Lisi want fat three kilogram
　　　　'Lisi wants to become three kilograms fatter.'
　　 b. Ta mei nian gao　 yi gongfen.　(Lin 2004:87)
　　　　3_{SG} every year tall one centimeter
　　　　'He grows a centimeter every year.'

Neither of the sentences in (10) has the perfective -*le;* however, they both have COS readings; therefore, it can be said that COS is not based on the perfective particle -*le*.

　　　Some characteristics of a telic event can be found in a sentence containing a COS verb because the latter denotes the former. For example, they can be modified by a frame adverbial, such as "in-X-time" in (11).

(11) a. Lisi zai yi ge yue　　 nei gao-le　 liang cun.
　　　　Lisi in one CL month inside tall-Prf two inch
　　　　'Lisi grew two inches taller in one month.'
　　 b. Lisi zai ban nian nei　 pang-le wu gongjin
　　　　Lisi at half year inside fat-Prf　 five kilogram
　　　　'Lisi became five kilograms heavier in half a year.'

　　　Finally, a verb denoting a telic event can also be modified by instrumental and volitional adverbs, such as *deliberately* in English, as suggested by Smith (1997). The adverb *guyi* in Chinese has a similar meaning and can be used to modify a gradable adjectival predicate. A suitable example has been given in (12):

(12)　　Weile canjia shizhuang xiu, Lisi guyi　　　shou-le san gongjin.
　　　　for participate fashion show Lisi deliberately thin-Prf three kilograms
　　　　'Lisi deliberately lost three kilograms to attend the fashion show.'

2.3 COS reading in a resultative construction
The example in (1d) suggests that an adjectival predicate can appear in a V-V resultative compound, while the sentence has a COS and telic reading.[3] According to Li & Thompson (1981), the first element of the resultative compound (V1) is an activity predicate, which can only have an atelic reading; however, the second element (V2) can instill a telic value onto the entire compound.[4] Similarly, Hoekstra (1988:121) stated that, in general, a resultative complement "denotes a state of affairs which is presented as a consequence of the activity or process denoted by the verb." Moreover, according to Levin & Rappaport Hovav (1995), resultative construction (causative construction in their taxonomy) comprises causative and resultative events. A causative event is denoted by an "action" and

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[3] There have been numerous studies on the resultative construction in Chinese over the past several decades. My focus here is on the studies that are most relevant to this paper. Specifically, I focus on studies that have observed a null telic morpheme projected in the resultative complement. Thus, my discussion here can be only selective, rather than inclusive.

[4] I use V1 to represent the first element of the resultative compound and V2 for the second.

is non-stative, while a resultative event is stative and expresses a causative event's "result" or "change of state." A similar statement is made by Huang et al. (2009), who suggested that V1 in a Chinese resultative compound indicates a causative event, whereas V2 indicates a resultative event.

Based on the extant literature, the semantic function of V2 is clear: it denotes a state that is the result of the action signified by V1. However, the present study focuses on what causes the "telic" reading of the compound, given that the second element can function as either a stative or telic predicate.

To account for the telic reading of the resultative construction, one can follow prior studies (e.g., Wu 2002) and assume that V2 in the compound is a telic predicate—more specifically, an achievement predicate. For example, *shou* 'thin' in (1a) has a stative value (*shou*$_{State}$) and can be modified by the degree adverbial *HEN* 'very.' In contrast, in (1d), the predicate functions as a resultative complement (*shou*$_{Achievement}$) and has a telic value. However, the same predicate can have an atelic and dynamic reading, as (1b) shows. Thus, we need to assume the presence of another lexical item, *shou*$_{Activity,}$ to explain the atelic reading. One may also wonder why a lexical item such as *shou*$_{Achievement}$ can function as either the main or secondary predicate while *shou*$_{State}$ can function only as the main predicate. Therefore, it seems that syntax does affect aspectual reading because one specific lexical item can appear under a certain syntactic environment.

Conversely, following studies such as Wu (2004), one can claim that the main function of the resultative complement is to signal telicity and that the entire resultative compound is formed in the lexicon. In other words, the compound has the [+telic] feature and is like an achievement verb in the sense of Slabakova (2001). Alternatively, following studies such as Xuan (2004), Sybesma (2017), and Lu et al. (2019), one may claim that V2 in the resultative compound sits in a functional phrase, namely, the Inner Aspect Phrase between the *v*P and VP in the sense of Travis (2010). This functional phrase is responsible for the telic reading of the compound. In other words, an adjectival, such as *shou* 'thin,' has two homophones: one is a pure lexical item which functions as the main predicate of a sentence such as (1a), while the other is a functional item signaling telicity in a sentence such as (1d). This is similar to Wu's (2004) proposal, wherein V2 is a functional item which transforms V1 into a telic verb; however, unlike Wu's (2004) research, these studies assume that the compound is formed through a syntactic operation.

Nevertheless, because morphemes such as *bu* 'not' and *de* 'able' may appear between the two elements to form a potential compound (e.g., ca-de-*ganjing* 'be able to wipe-clean'), some studies have argued that the two elements do not form a compound. For example, Wang (2021) suggested that the resultative construction in MC comprises a main predicate and small clause signified as a *v*P and that the two elements do not form a compound. The analysis of V-V resultatives presented here adopts Wang's (2021) proposal. More details are given in Section 4.2.

3. Theoretical background
3.1 The characteristics of situation aspect
Following Smith (1997), I assume that the aspectual meaning of a sentence conveys two kinds of information: the viewpoint aspect and the situation aspect. The former presents a situation with a particular perspective or focus and comprises three major types: perfective,

1 imperfective, and neutral. The latter is concerned with different types of verbs or situations
2 based on their temporal properties. The present study focuses on the latter.
3   The situation aspect is also referred to as *Aktionsart*[5], aspectual verb classes, or
4 situation/event types (henceforth, situation types). Previous studies (e.g., Vendler 1967,
5 Smith 1997) have claimed that situation types can be generally grouped into four classes
6 based on their semantic properties: activities, states, accomplishments, and achievements.[6]
7 According to Smith (1997), each situation type contains certain temporal features,
8 including dynamism, telicity, and duration. The cluster of features that distinguish the
9 situation types provided by Smith (1997) are summarized in (13).
10
11 (13)

Features / Situation types	Static	Durative	Telic
States	[+]	[+]	[%]
Activity	[-]	[+]	[-]
Accomplishment	[-]	[+]	[+]
Achievement	[-]	[-]	[+]

12
13 As shown above, each situation type contains specific temporal features. A state is [+static]
14 when the remaining types are [-static]. Smith (1997) indicated that the distinction between
15 stasis and motion is fundamental, and we can split situation types into the classes of states
16 and events: states are static (i.e., [+static]), while events are dynamic (i.e., [-static]). On the
17 one hand, states comprise a single, undifferentiated period; they occur in time but have no
18 set duration. On the other hand, events include all non-stative situation types which are
19 dynamic and subject to a new input of energy. Nevertheless, since a situation type is either
20 [+ static] or [-static], one can simply transform the former to the latter, wherein all the
21 values will reverse from [+] to [-], and vice versa. Therefore, instead of saying that states
22 are static and have a [+stative] feature, it can be said that they are non-dynamic and contain
23 a [-dynamic] feature. Similarly, events including accomplishments, achievements, and
24 activities are dynamic and have a [+dynamic] feature.
25   In general, unlike states, as in (14d), dynamic events can be modified by the
26 progressive aspect, as (14) a-c illustrate.
27

(14) a.   John is building a house.
      b.   John is running.
      c.   John is reaching the mountain peak.
      d.   *John is knowing the answer.

28
29 The next temporal feature that distinguishes different situation types is [±durative].
30 Situation types are either durative or instantaneous. As shown in (13), the only situation

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[5] *Aktionsart* comes from the German word *aktion,* meaning "action" and *art*, meaning "type."
[6] In addition to the four main situation types, Smith (1997) also included a fifth type: Semelfactives. In this study, I focus on the four main types and will not discuss semelfactives.

type that contains the [-durative] feature is event denoting achievements. For example, an
event such as [reach the mountain peak] is instantaneous.

       Finally, an event is either telic or atelic. Telic events include accomplishments and
achievements, whereas atelic events include activities.[7] There are certain tests that are
useful in differentiating between telic and atelic events. For example, in general, only telic
events are compatible with an adverbial such as "in-X-time," while only atelic events can
be modified by an adverbial such as "for-X-time" as (15) illustrates.

(15) a.   John built a house in three months. (telic)
        b.   ?John built a house for three months. (telic)
        c.   John ran for three hours. (atelic)
        d.   *John ran in three hours. (atelic)

In addition, the computation of the situational aspect requires more than just the verb. Other
elements, such as the semantic properties of the direct object (e.g., the quantity of the
object), telic morphemes (e.g., preverbs in Russian), goal prepositional phrases (e.g., push
the cart *to the park*), and resultative complements (e.g., John painted the house *red*) may
also contribute to the computation. According to Slabakova (2001), telic constructions
subsume two large categories: accomplishment/achievement-denoting predicates and
resultative/dative elements.
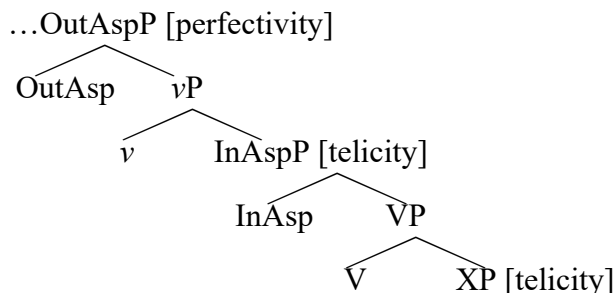
3.2 The syntax of situation types
This study assumes that the viewpoint aspect (i.e., the outer aspect) is computed in the
functional domain above *v*P (e.g., Huang et al. 2009, Travis 2010), while the situation
aspect (i.e., the inner aspect) and other telic-related constructions (e.g., resultative
construction) remain inside the lexical domain.

       However, to further distinguish the different types of telic-related constructions—in
particular, the resultative construction—the study follows Slabakova (1997, 2001) and
Travis (2010) and assumes that language uses different mechanisms to compute telicity and
telicity markers may be encoded in different places within the lexical domain: (a) the head
of the *v*P, (b) the head of the Inner Aspect Phrase, and (c) the complement of the VP.[8] The
analysis focuses on (b) and (c). It shows that MC uses these two mechanisms to compute
telicity (see Section 4). The basic syntactic structure adopted in this study is represented in
(16).

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[7] However, Smith (1997:21) stated that, "[n]ot all the possible combinations are realized: the feature [± telic]
is irrelevant to situations with the property [+Static]." Consequently, I used % to represent the [telic] feature
of states.

[8] Nossalik (2009) argued that the Inner Aspect Phrase is where a telic morpheme is projected in Russian.
Similarly, Travis (2010) also suggested that Malagasy uses InAsp to mark telicity. As for the *v*P, Butt &
Ramchand (2005) suggested that, in Hindi-Urdu, several light verbs that are projected in the head of the *v*P
may introduce telicity. They argued that *v* may encode telicity information in some cases. Finally, studies
such as those of Snyder (1995), Tang (1997), Ramchand (2008), and Zhang (2017) have illustrated that there
is at least one functional element below VP that is responsible for the telic reading of a resultative
complement.

(16)

  …OutAspP [perfectivity]

  OutAsp vP

     v InAspP [telicity]

       InAsp VP

         V XP [telicity]

1
2 Following Travis (2005, 2010) and Ritter & Rosen (2005), I assume that there is at least
3 one functional phrase in the lexical domain that determines the computation of telicity. This
4 functional phrase, the Inner Aspect Phrase, selects a VP as its complement, which in itself
5 is the small *v*'s complement.[9] However, to explain the semantic properties of gradable
6 adjectival predicates in MC, I further assume that these predicates contain an
7 underspecified aspectually-related feature that must be checked under a syntactic operation.
8 A similar proposal has been made by Slabakova (2001), who argued that English verbs
9 denoting activity and accomplishment have a [α telicity] feature that needs to be assigned a
10 value; one of the mechanisms to do so is based on the quantity (or the [$\pm$SQA] feature
11 [Verkuyl 1993]) of a nominal object. The two sentences in (17)—taken from Slabakova
12 (2001:68–69)—provide an illustration:
13

  (17) a. Mary drank Czech beer.   (atelic)
     b. Mary drank a glass of Czech beer. (telic)

14
15 The example in (17a) does not contain a quantized object; thus, it has an atelic reading. In
16 contrast, (17b) contains a quantized object or an [+SQA] object, thereby giving the
17 sentence a telic reading. According to Slabakova (2001), a [+SQA] object can assign the
18 predicate with a [+] value while a [-SQA] object assigns a [-] value. The feature-checking
19 between the object and predicate is based on the semantic resemblances between the
20 nominal and verbal domains (Krifka 1992). Moreover, according to Slabakova (2001), the
21 computation of telicity is conducted in the functional phrase, the Inner Aspect Phrase under
22 a Spec-head relation between the predicate and the object. That is, the predicate moves to
23 the head of the functional phrase and the object to its specifier. Following Slabakova
24 (2001), I claim that gradable adjectival predicates in MC also contain an underspecified
25 feature related to the temporal features presented in (13). I show that such predicates
26 contain a [α dynamic] feature that must be valued under a syntactic operation.
27   Because my discussion also includes the syntax and semantics of the resultative
28 construction, I also present the approaches that I adopt in this study. However, given that
29 there are numerous studies on this topic, I focus on those that have adopted approaches
30 arguing for a null telic morpheme below the VP that handles the telic reading of a

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[9] Travis (2010) uses VP1 and VP2 instead of *v*P and VP. I use *v*P in the present study to represent her VP1.

1 resultative construction. For example, Snyder (1995) argued that the English resultative
2 construction contains a null telic morpheme projected below VP. This null aspectual
3 morpheme (ϕ TELIC) takes an event and a predicate of events and makes sure that the
4 predicate is true only at the natural endpoint of that event. The semantics of the morpheme
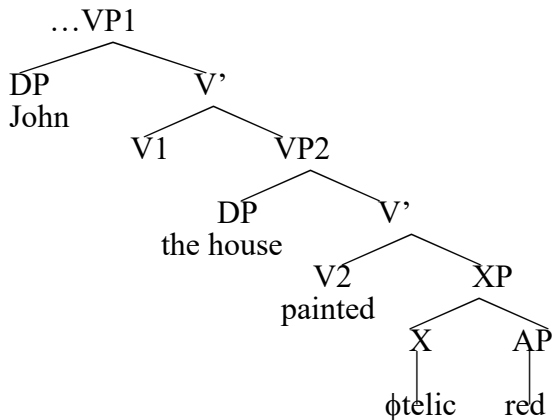5 is summarized in (18), shown below.
6
7 (18) ϕtelic (P)(e) True, for any event e and any predicate of events P, if for that event e',
8   which is a subevent of e and which is the "natural endpoint" of e, P(e') = True
9
10   If this morpheme is projected in syntax, it becomes possible to convert an activity
11 into an accomplishment through the addition of the telic morpheme and its predicative
12 complement. The analysis proposed by Snyder (1995) is summarized in (19) and (20).
13
14 (19)   a. John painted the house red.
15   b. Theta identification of event arguments at LF:
16
17   painted'   (x) (y) (e)
18   ϕ_{telic} (P)   (e)
19   _____
20   [painted' (x) (y) (e) and ϕ_{telic} (P) (e)] (P) (x) (y) (e)

(20)

21
22 Snyder (1995) further argued that the Davidsonian event argument (e) of the predicate *paint*
23 and ϕ_{telic} in (19) must be equated via a process of theta-identification, as in Higginbotham's
24 (1985) research. Via theta-identification, a position in one argument structure is linked to a
25 position in a second argument structure in a way that both are satisfied by a single syntactic
26 expression. As shown in (20), the theme argument, which is also the subject of the
27 resultative complement, is projected in the VP2's specifier but not in the AP or XP.
28   In fact, it has been argued that Chinese also has a null telic morpheme that
29 determines the V-V resultative construction's telic reading. For example, Tang (1997)

1   claimed that V1 in a resultative compound is unbound and incompatible with the result
2   state. Thus, there exists a null telic morpheme whose main function is to close off the open
3   range of V1 and denotes the endpoint in temporal extension. According to Tang (1997), the
4   telic morpheme is situated in a functional phrase projected between the VP and result-
5   denoting phrase. Zhang (2017) also provided a similar account of the structure of the
6   resultative construction in Chinese. Following Ramchand (2008), it is assumed that, in a
7   resultative compound, the VP selects a resultative phrase (RP) as its complement, the head
8   of which is the element that handles the telic reading.[10] Following studies on the V-V
9   resultative construction presented in Section 3.2, I argue that the null telic morpheme
10 responsible for the telic reading sits in a functional phrase inside the resultative
11 complement. More details are given in Section 4.2.
12
13 **4. Proposals and analyses**
14 Following previous studies (e.g., Verkuyl 1993, Smith 1997), I assume that situation types
15 contain distinctive temporal features. To account for the different aspectual readings in (1),
16 I propose that a gradable adjectival predicate in MC, like *shou* 'thin' contains a [α
17 dynamic] feature that must be valued. There are several feature-assigners that can give the
18 predicate a value. I demonstrate that the different temporal readings of the same predicate
19 in (1) arise due to the functional elements of different functional phrases above the
20 predicate.
21
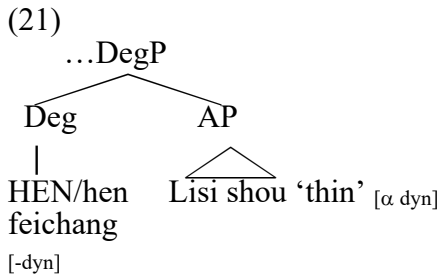22 *4.1 On the stative, and atelic & eventive readings of an adjectival predicate*
23 Recall that in Section 2, certain linguistic environments were introduced, wherein a
24 gradable adjectival predicate can have only a stative reading. According to Kennedy (1999)
25 and Kennedy & McNally (2005), gradable adjectives have a degree-based semantics and
26 must be combined with semantic operators such as a degree adverbial to be usable as
27 predicates of individuals. In the spirit of their study, I would like to propose that, in
28 addition to their main semantic function, these operators can also assign the [α dynamic]
29 feature of the predicate with a [-] value. In other words, they give the adjectival predicate a
30 stative value.
31   The first two sets of operators I would like to discuss here are the degree adverbials
32 such as *HEN* 'very' and the semantically bleached *hen*. As presented, when a gradable
33 adjectival predicate is situated in the main clause, a degree morpheme can be used to ensure
34 that the sentence does not have a comparative meaning. One of the elements that can be
35 added is a degree adverbial, such as *HEN* 'very' or *feichang* 'extremely.' Such adverbials
36 add a "degree" to the adjective they modify. However, to express a simple positive degree,
37 one may use the semantically bleached *hen*. According to Lü (1982), the bleached *hen* is
38 used to assign the adjective a positive degree. Unlike the true degree adverb *HEN* 'very,'
39 the bleached *hen* is unstressed when pronounced (e.g., Li & Thompson 1981, Lü 1982).
40   Based on Grano (2012) and Zhang (2013), I assume that these operators are realized
41 as the head of the Degree Phrase (DegP), whose main function is to convert a gradable
42 predicate into the properties of individuals (Kennedy 1999, Kennedy & McNally 2005).

---

[10] Although Zhang (2017) did not specify the morphosyntactic properties of R, its functions are similar to the
null telic morpheme exemplified in Tang's (1997) study.

1 Moreover, according to Kennedy (2007), a degree modifier is semantically stative in
2 nature; in other words, it is non-dynamic. Therefore, I propose that these operators contain
3 the [-dynamic] feature and can assign the adjectival predicate with a [-] value, giving it a
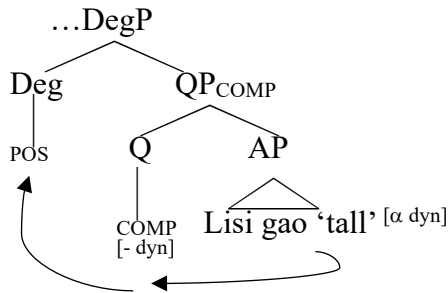4 stative reading. The syntactic configuration is represented in (21).
5

(21)
    …DegP

  Deg   AP

  HEN/hen   Lisi shou 'thin' [α dyn]
  feichang

  [-dyn]

6
7 As (21) shows, the degree phrase, headed by an operator (e.g., *HEN* 'very,' the
8 semantically bleached *hen*, or *feichang* 'extremely') contains the feature [-dynamic] and
9 selects the AP as its complement. Under this c-command relation, the [α dynamic] feature
10 on the predicate is assigned with a negative value and has a stative reading.[11]
11   An operator like a covert comparative marker as exemplified in (22a) can also
12 assign a [-] value to the predicate. However, additional assumptions are required. First,
13 following Kennedy & McNally (2005), I assume that comparatives are expressions that
14 map adjective meanings to new adjectives. In other words, the [comparative + adjective]
15 constituent denotes a function from individuals to degree and must also be combined with a
16 degree head in the syntax to derive a property of individuals. Second, based on Corver
17 (1997), I assume that there is a functional phrase (QP) between the AP and DegP, and the
18 comparative morpheme is situated in the QP. The morpheme's main function is to
19 transform a regular AP into a comparative one. Moreover, following Liu (2010), I assume
20 that there is a covert degree morpheme POS that is in the complementary distribution in the
21 head of DegP with its overt counterpart: the semantically bleached *hen*. Like *hen*, its main
22 function is to make a gradable adjective usable as a predicate of individuals. Finally, I
23 propose that the null comparative morpheme contains the [-dynamic] feature and can assign
24 the predicate with a negative value. A sentence like (22a) can be represented in (22b).
25

(22) a.   Lisi gao.
           Lisi tall
           'Lisi is taller.' (Not 'Lisi is tall.')

---

[11] Here I follow Cheng et al. (1999) and assume that a non-affixal element in an upper head blocks the movement of the lower head; therefore, the head of the AP does not move to Deg.

b.

11
12   As (22b) illustrates, the adjective *gao* 'tall,' containing the [α dynamic] feature,
13   merges with the covert comparative head (Q_COMP), which contains a [-dynamic] feature, to
14   form a QP.[12] The [α dynamic] on the predicate receives a [-] value Q_COMP. However, to
15   receive a value, the predicate moves and adjoins to Q_COMP because the checking relation
16   must be local. The QP then merges with a degree phrase which is headed by the covert POS
17   morpheme and the cluster of [A+ Q] then moves and adjoins to the morpheme.
18   As for the comparative-only reading in (22a), I argue that it is due to the lack of the
19   [-dynamic] feature on the covert POS morpheme. Because both POS and COMP are covert, there
20   is not an explicit way for us to tell which one of them assigns the predicate with a value.
21   However, given (22a) does not have a positive degree reading, I take it as an indication that
22   the POS morpheme does not contain the [-dynamic] feature. As a result, if we combine the
23   covert POS morpheme directly with the adjectival predicate, the predicate's [α dynamic]
24   feature will remain unchecked, and the sentence will crash. This suggests that the
25   difference between the semantically bleached *hen* and the covert POS morpheme is not solely
26   attributed to their phonological features (i.e., one is covert and the other overt, as suggested
27   by Liu [2010]), but also to their semantic features. While *hen* contains a [-dynamic] feature,
28   the covert POS morpheme does not.
29   One may wonder why a sentence such as (23a), which contains the degree adverbial
30   *HEN,* does not have a comparative reading, given that a comparative adjective can also be
31   modified by a degree adverbial (e.g., the adverbial *a lot* in the English sentence *John is*
32   *much taller*.) In contrast, the same predicate in (23b) only has a comparative reading but
33   not a positive one.
34

(23) a. Lisi *HEN* gao.
          Lisi very tall
          'Lisi is very tall.' (Not 'Lisi is much taller.')
      b. Lisi geng gao.
          Lisi also tall
          'Lisi is even taller.'

---

[12] One can also follow Grano & Kenny (2012) and assume that the COMP morpheme is an affix that is attached to the adjective in the lexicon but is not formed in the syntax. In this case, a simple adjective and a comparative adjective differ in that the former contains the [α dynamic] feature, while the latter contains the [-dynamic] feature in the lexicon. In the present paper, I follow Corver (1997) and adopt a syntactic approach.

1   I would like to suggest that the phenomenon found in (23a) is due to the selectional
2   property of the degree adverbial *HEN* 'very.' Such degree adverbials can only modify an
3   adjectival predicate with a positive degree. Therefore, (23a) only has a positive but not a
4   comparative reading. In fact, other degree adverbials that illustrate the selectional property
5   can be observed. For example, the adverb *geng* 'even' in (23b) only selects a comparative
6   adjective.
7   As presented in Section 2, an adjectival predicate can have a stative reading when it
8   appears in a negative sentence (e.g., 24a), polar question (e.g., 24b), and A-not-A question
9   (e.g., 24c).
10

    (24)
          a.   Lisi bu pang.   (Negation)
                Lisi not fat
                'Lisi is not fat.'
          b.   Lisi pang ma?   (Polar question)
                Lisi fat Q
                'Is Lisi fat?'
          c.   Lisi pang bu pang? (A-not-A question)
                Lisi fat not fat
                'Is Lisi fat?'

11
12   Given that the sentences in (24) do not have a comparative semantics, the DegP, headed by
13   the covert POS morpheme, directly selects an AP as its complement with a positive degree
14   reading. However, based on the proposal presented above, the morpheme POS does not
15   contain a [-dynamic] feature and is unable to assign a value to the adjective. Therefore, the
16   stative reading of these examples requires an explanation.
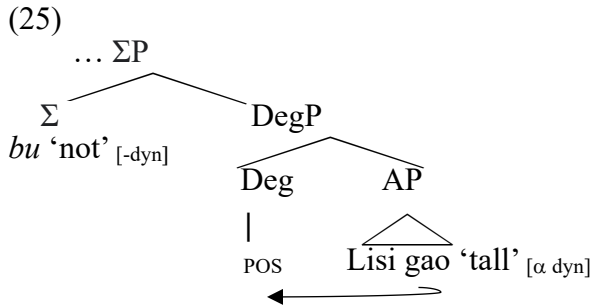17   Following Grano (2012), I assume that the syntactic structures of these examples
18   contain a functional phrase, the Σ Phrase (ΣP), which selects the adjectival predicate as its
19   complement.[13] According to Grano (2012), in a polar question such as (24b), there is a
20   cover morpheme $\phi_{whether}$ whose main semantic function is to quantify over the polarity
21   values (i.e., *yes* and *no*) of the proposition. In the spirit of Laka (1990), Grano (2012)
22   further assumed that this covert morpheme is a realization of Σ, which is a term for the
23   locus of sentential negation and affirmation. Similarly, sentences such as (24c) and (24a),
24   which contain an A-not-A question and the negation word *bu* 'not,' respectively, also have
25   a ΣP projected in the syntax. In addition, Grano (2012) also claimed that the [A-not-A]
26   morpheme and the negation morpheme *bu* both sit in the ΣP.
27   I begin the analysis with example (24a), which includes the negation morpheme *bu*
28   'not.' According to Lin (2003), the negation morpheme has a special selectional property
29   and is only compatible with a non-dynamic event. In other words, this negation morpheme
30   s-selects a stative event. However, from a different perspective, a gradable adjectival
31   predicate may have a stative reading due to the negation morpheme's semantic property.

---

[13] Grano (2012) assumed that the covert POS morpheme is an affix attached to the adjective in the lexicon. Therefore, according to Grano, ΣP directly selects an AP$_{POS}$ as its complement. This defers from my account, wherein ΣP selects a DegP as its complement.

1   This is the direction I am taking; therefore, I claim that the negation *bu* is responsible for
2   assigning a value to the predicate. It contains a [-dynamic] feature and assigns the [α
3   dynamic] feature on the predicate with a [-] value.
4   Following Grano (2012), I assume that *bu* 'not' is realized as the head of the ΣP.
5   The structure of (24a) can be roughly represented, as shown in (25) below.
6

(25)

```
          … ΣP
         /    \
        Σ      DegP
   bu 'not' [-dyn]  /    \
                 Deg      AP
                  |      /  \
                POS   Lisi gao 'tall' [α dyn]
                       <————————
```

7
8   As (25) shows, the AP first merges with the DegP, which is headed by the covert
9   morpheme POS. The morpheme POS is strong on A and, therefore, the head of the AP adjoins
10 to it. Since the morpheme lacks the feature of [-dynamicity], the [α dynamic] feature of the
11 adjective remains unchecked. The morpheme *bu* 'not,' which is the head of the ΣP, merges
12 with DegP to form a ΣP. Given that the morpheme contains a [-dynamic] feature, it can
13 assign a [-] value to the adjective.
14   The same analysis can be used to account for the stative reading of polar questions
15 as well as A-not-A questions. For the former, it is assumed that the head of the ΣP is
16 realized as a cover morpheme φ$_{whether}$ whose main semantic function is to quantify the
17 proposition's polarity values (i.e., *yes* and *no*). Thus, the morpheme embodies both positive
18 and negative semantics. Given that the cover morpheme contains a negative component, it
19 also contains the [-dynamic] feature which can assign a [-] value to the adjective. For the
20 latter, the analysis follows Huang et al. (2009) and Grano (2012) and assumes that the
21 morpheme [A-not-A] is situated in the same position as the negation morpheme; i.e., it is
22 located in the ΣP. Given that such questions always contain the negation morpheme *bu*,
23 they also contain the [-dynamic] feature which can assign a [-] value to the adjectival
24 predicate.[14]
25   Nevertheless, there is supporting evidence showing that even the affirmative
26 morphemes (in the sense of Laka 1990) may also contain a [-dynamic] feature in MC.
27 According to Laka (1990), an affirmative morpheme may appear in certain special
28 discourses. For example, one of the features of the affirmative morpheme *did* in English is
29 to provide an emphatic affirmation in a sentence such as *I did read the book* (Laka

---

[14] The negation morpheme *mei* can also appear in an A-not-A question when the predicates are eventive (e.g., *chi-mei-chi* 'eat-not-eat') or begin with the word *you* 'have' (e.g., *you mei youyisi* 'have-not-have meaning' = interesting-not-interesting). However, my focus here is on *bu* and will not address the *mei*-type A-not-A questions.

1990:69). In MC, a bare adjectival predicate can appear in a direct response to a polar
question, as suggested by Grano (2012). Observe the following short discourse in (26).

(26) a. Zhangsan gao ma?
Lisi very tall
'Is Zhangsan tall?'
b. Zhangsan gao.
Zhangsan tall
'Zhangsan is tall.' (Not 'Zhangsan is taller.')

The example depicts that (26b) is a direct response to (26a). It contains a bare adjectival
predicate. Unlike (22a), (26b) does not have a comparative meaning. Thus, the [α dynamic]
feature of the predicate is not assigned by the covert COM morpheme. I suggest that it is the
null affirmative morpheme in the ΣP's head that gives the adjective a stative value.[15]
Therefore, both negative and affirmative morphemes in ΣP can assign the A with the [α
dynamic] feature with a [-] value.
　　　　Finally in this subsection, I discuss the dynamic reading of an adjectival predicate.
As illustrated in (1b), the predicate is compatible with the durative phrase *yi nian* '(for) one
year,' suggesting that it is an atelic event. However, Smith (1997) indicated that some
stative predicates are also compatible with durative adverbials. For example, the stative
predicate *sick* in English can be modified by a durative adverbial in a sentence like *John
was sick for three days*. Thus, it is important to test and determine whether the predicate in
(1b) denotes an event and not a state. The following examples in (27) suggest that the
adjectival predicate is not stative but dynamic.

(27) a. *Lisi hen shou san ge yue.
Lisi very thin three CL month
Intended reading: 'Lisi was very thin for three months.'
b. Yinwei shoushang de guanxi, Lisi shou-le san ge yue.
because injure　　DE relation Lisi thin-Prf three CL month
'Lisi had been thin for three months due to his injury.'
c. Lisi guyi　　　　shou-le san ge yue.
Lisi deliberately thin-Prf three CL month
'Lisi deliberately lost some weight for three months.'

---

[15] The negation *bu* and the [A-not-A] morpheme can be used in a sentence that contains an event denoting
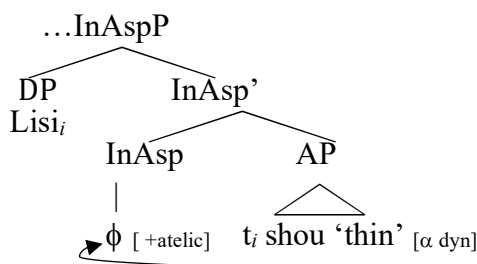activity, which is dynamic, as illustrated in (i) and (ii).
(i)　　Wo bu chou yan. (Lin 2003:432)
I　not smoke cigarette
'I do not smoke.'
(ii)　　Ni chou yan bu　　chou yan?
you smoke cigarette not smoke
'Do you smoke?'
As is evident, the verb phrase *chou yan* 'smoke cigarette' denotes an activity in both the examples. However,
according to Lin (2003), such sentences involve 'attitudinal habituals' and are stative; therefore, they can be
negated by *bu* 'not.'

1   Firstly, as (27a) shows, the fact that the sentence is ungrammatical with *HEN* indicates that
2   the sentence does not have a stative reading. This suggests that *HEN* cannot assign the
3   predicate with a value. Secondly, without *HEN/hen,* as illustrated in (27b), the sentence is
4   grammatical and does not have a comparative meaning. As I have argued, the covert
5   comparative morpheme can assign a [-] value to a predicate containing a [α dynamic]
6   feature. The fact that the sentence does not have a comparative meaning suggests that
7   something else gives the predicate a value. Given that the predicate can be modified by the
8   perfective *-le*, the predicate must be eventive and not stative. Finally, as (27c) illustrates,
9   the sentence contains the adverbial *guyi(de)* 'deliberately,' which is generally compatible
10   only with an event. This also suggests that the predicate is dynamic and not stative.
11   The examples in (27) all indicate that the adjectival predicate has a dynamic reading
12   (i.e., the [α dynamic] feature receives a [+] value); there must be some other elements that
13   function as a value-assigner. I would like to propose that there is a null atelic morpheme
14   functioning as the value-assigner. This morpheme is base-generated in the head of the Inner
15   Aspect Phrase, which directly selects the adjectival predicate as its complement. The
16   proposed structure is presented in (28).
17

(28)

```
          …InAspP
         /        \
       DP          InAsp'
      Lisi_i      /      \
            InAsp          AP
              |          /    \
          φ [+atelic]   t_i shou 'thin' [α dyn]
```

18
19   Recall that in Section 3, I presented a summary of the temporal features distinguishing the
20   situation types provided by Smith (1997). According to Smith (1997), both atelic and telic
21   events are dynamic. In other words, both the [-telic] and [+telic] features entail the
22   [+dynamic] feature. Thus, the [+dynamic] and [±telicity] are always bundled together. As
23   shown in (28), the InAspP directly selects the AP as its complement; the null atelic
24   morpheme is base-generated in the head of the InAspP and functions as the value-assigner.
25   The feature [-telic] is strong on A and the checking relation must be local; therefore, the
26   predicate moves up and adjoins to InAsp and is then assigned with a [+] value by the covert
27   atelic morpheme. The subject of the AP then moves up to the specifier of the InAspP.
28   In summary, in this subsection, I used a syntactic analysis to account for both the
29   stative and eventive (more specifically, the atelic) readings of a gradable adjectival
30   predicate. I claimed that these predicates contain a [α dynamic] that can be valued by
31   different functional elements, which sit in the head of a functional phrase that immediately
32   dominates the predicate. For example, a degree phrase, headed by a degree adverbial like
33   *HEN* 'very' can assign the predicate with a [-] value. Further, to account for the atelic

1 reading of the predicate, I argued that a covert atelic morpheme, situated in the Inner
2 Aspect Phrase's head, directly selects the predicate as its complement. Given that all events
3 (including both atelic and telic) are dynamic, the predicate can receive a [+] value, which
4 indicates its dynamic nature.
5
6 *4.2 On the telic reading of a gradable adjectival predicate*
7 This subsection discusses the telic reading of sentences such as (1c) and (1d), repeated as
8 (29a) and (29b), respectively.
9

    (29) a.   Lisi zai yi ge yue   nei shou-le san gongjin.
                Lisi at one CL month within thin-Prf three kilogram
                'Lisi became three kilograms lighter in one month.'
          b.   Lisi zai yi ge yue   nei   chi-shou-le wode hebao.
                Lisi at one CL month within eat-thin-Prf my wallet
                'Lisi ate so much that he made me become poor in one month.'

10
11 The two examples are similar in that they both have a telic reading; however, they differ in
12 that although the adjective *shou* 'thin' functions as the main predicate in (29a), it serves as
13 a secondary one in (29b). As I illustrate in the following two subsections, the sentences
14 have a telic reading due to a covert telic morpheme (i.e., BECOME) that sits in the head of the
15 Inner Aspect Phrase.
16
17 *4.2.1 The telic reading of an adjectival predicate in the main clause*
18 Example (30) is used for the discussion. This example contains sentences with a COS
19 reading. However, they differ because (30b) has an explicit measure phrase (MP), unlike
20 (30a).
21

    (30) a.   Lisi pang-le.
                Lisi fat-Prf
                'Lisi has become fat.'
          b.   Lisi pang-le san gongjin.
                Lisi fat-Prf three kilometer
                'Lisi has become three kilometers fatter.'

22
23 Recall that Tham's (2013) discussion regarding deadjectival COS verbs was presented in
24 Section 2. According to her, a predicate such as *pang* 'fat' is a deadjectival COS verb
25 derived from an adjective. However, due to the general lack of morphological distinction in
26 MC, the verb and adjective assume the same surface form. She further argued that the
27 derivation is due to the BECOME operator (following Dowty [1979]) and a morphological
28 component that converts the adjective into a verb. The semantic representation of the
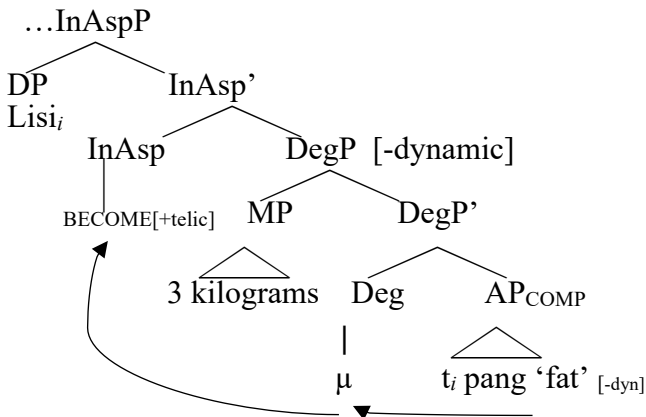29 adjectival predicate *pang* 'fat' is shown in (31a), whereas the verbal predicate is shown in
30 (31b).
31

    (31) a.   *pang*_{Adj} 'fat': λx λs fat'(x)(s)
          b.   *pang*_V 'become fat': λx λs λe [become (s)(e) ^ fat'(x)(s)]

1   As can be seen in (31), the COS verb *pang*$_V$ is derived from the adjective *pang*$_{Adj}$ along
2   with the $_{BECOME}$ operator, although there is no morphological difference between these two
3   types of predicates.
4   In addition to the COS reading, the two examples in (30) also contain comparative
5   semantics because previous studies (e.g., Kennedy & Levin 2008) have argued that COS
6   verbs derived from gradable adjectives have comparative semantics. The two examples
7   compare one individual at two different temporal junctures. For example, the subject in
8   (30a) is now fatter as compared to some time ago before the utterance, based on the
9   speaker's judgement.[16] By contrast, (30b) is more informative because it has an MP.
10   Therefore, it can be rephrased as *Lisi is now three pounds heavier than before*. In fact,
11   Grano (2012) has a similar observation, noting that a sentence such as (30a) or (30b) is
12   another case where covert comparative semantics is required.
13   I begin the discussion with (30b), which contains an MP. It has the partial syntactic
14   structure represented in (32).
15

(32)

…InAspP

DP   InAsp'
Lisi$_i$

    InAsp   DegP [-dynamic]

BECOME[+telic] MP   DegP'

        3 kilograms   Deg   AP$_{COMP}$

                |
                μ   t$_i$ pang 'fat' $_{[-dyn]}$

16
17   As I have argued, the adjectival predicate must be comparative and therefore, non-dynamic.
18   I simply use AP$_{COMP}$ to represent the predicate. The first step in the derivation is that the
19   AP$_{COMP}$ merges with a degree head. To understand the MP's syntax, following Svenonius &
20   Kennedy (2006) as well as Zhang (2013), I assume that the DegP is headed by a null μ,
21   which can introduce MP as one of its arguments. Just like the null $_{POS}$ morpheme, the null μ
22   does not assign a value to the predicate. However, it is strong on A; therefore, the head of
23   the AP$_{COMP}$ moves and adjoins to μ. Subsequently, the MP projects in the specifier of the
24   DegP. The meaning of the entire DegP is: '*Lisi is three kilograms heavier (fatter).*'
25   The next step in the derivation is that the DegP and InAspP merge. As suggested by
26   Tham (2013), a COS verb is a combination of the adjective and the $_{BECOME}$ operator. To

---

[16] The judgement of the speaker who creates the sentence may be wrong. It is possible that Lisi in fact did not gain any weight at all. However, the comparative meaning still exists, as the speaker is comparing Lisi's weight (or shape) in the past based on their memory (or impression) with Lisi's current weight (or shape).

1   understand its syntax, I follow Travis (2010) and assume that the operator is realized in the
2   head of the InAspP and that the operator is covert and contains the [+telic] feature. The
3   cluster of [A$_{COMP}$ + μ] then moves up and conjoins to the telic morpheme BECOME. Further,
4   the AP's subject moves to the specifier of the InAspP before further moving to a higher
5   location. The Spec-head relation ensures that the subject experiences the COS.
6   As discussed in Section 4.1, in addition to a COS reading, a COS verb also has a
7   comparative meaning (e.g., Kennedy & Levin 2008, Grano 2012); in other words, it is non-
8   dynamic. However, it has also been assumed that the BECOME operator is telic and dynamic.
9   These two features seem contradictory, as a telic event must be dynamic (as indicated by
10 Smith [1997]). To solve the issue, I assume that the shift in situation type can change the
11 predicate's meaning. De Swart's (1998) approach, which deals with aspect shift and
12 coercion, is adopted here. According to De Swart (1998), at least three covert coercion
13 operators exist in natural languages. The C$_{eh}$ operator signifies the coercion of a telic event
14 into a state or an activity. C$_{he}$ is a coercion operator which maps a state or an activity onto a
15 telic event. Finally, C$_{sd}$ transforms a state into a dynamic event. Based on this approach, the
16 BECOME operator in the head of the InAspP can be termed as a type of C$_{sd}$ operator which
17 transforms a state into a dynamic event. The coercion operation is explained in (33).
18
19 (33) a. φ[+telic] + Adj [-dynamic] → φ[+telic] + Adj [+dynamic]
20   b. [state] or [comparative state] → COS
21
22 As (33a) and (33b) show, the telic morpheme coerces a state into an event. As a "dynamic
23 state," the adjectival predicate does not denote a state anymore and obtains a COS reading.
24   Finally, to explain the syntax in (30a), which does not contain an overt MP, I follow
25 Zhang (2013) and assume that the DegP, headed by the null morpheme μ, does not have an
26 EPP feature. This eliminates the need for an MP in the specifier. The derivation steps are
27 the same as those presented in (32).
28
29 *4.2.2 The telic reading of a V-V resultative compound*
30 We have seen examples in which a gradable adjectival predicate can have a stative,
31 dynamic, or COS reading as the primary predicate. However, in a resultative compound,
32 the adjective functions as a secondary predicate and can have only a telic reading, as the V1
33 of the compound is an event denoting activity and can have only an atelic reading (Li &
34 Thompson 1981). Here, the focus is on understanding the causes behind the telic reading of
35 the entire compound. Different from previous studies (e.g., Wu 2002, Wu 2004), the
36 present study adopts a syntactical instead of a lexical approach. In other words, the telic
37 reading of a compound's V2 is due to a syntactic operation.
38   My proposal is inspired by studies such as those by Snyder (1995), Tang (1997),
39 and Slabakova (2001), which have argued for a null telic morpheme below V1 that handles
40 the telic reading of a resultative construction. I also follow Wang (2021) in assuming that
41 the resultative complement (V2) is a small clause which is realized as a *v*P.[17] According to
42 Wang (2021), the *v*P, as the complement of V1 denotes a non-agentive eventuality; thus,
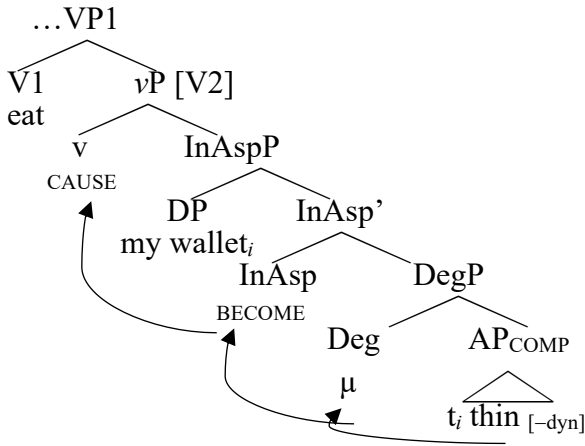
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[17] See studies such as those by Cheng & Huang (1995) and Basciano (2000) for an alternative account, and
Paul (2021) for arguments against the small clause analysis.

1   the projection lacks the specifier position. However, my approach differs from those
2   adopted in said studies because I assume that the functional phrase, the Inner Aspect
3   Phrase, also projects inside the vP. Moreover, as suggested by previous studies (e.g., Tham
4   2013, 2015), resultatives encode a change. That is, the compound also involves
5   comparative semantics.
6   Consequently, the sentence in (34a), which exemplifies a V-V resultative
7   compound, has the syntactic structure proposed in (34b).
8

(34)   a.   Lisi chi-shou-le   wode hebao.
               Lisi eat-thin-Prf   my wallet
               'Lisi ate so much that he made me poor.'

       b.

9
10   As (34b) illustrates, the predicate *shou* 'thin' first merges with the subject of the resultative
11   complement to form an AP. Like (30a) and (30b), the sentence has a COS reading (as
12   suggested by Tham [2013]); therefore, it also contains comparative semantics. Like (30a),
13   the AP$_{COMP}$ directly merges with the DegP headed by the covert morpheme μ. As the
14   sentence does not have an MP, the DegP does not project a specifier. The next step of the
15   derivation is a merging of the DegP and InAspP. Given that a COS verb is a combination of
16   the adjective and the BECOME operator, as in (30a) and (30b), the operator is realized in the
17   head of the InAspP and it is a null morpheme that contains the feature [+telic]. The cluster
18   [A + μ] further moves up and adjoins to the null telic morpheme. Also, the subject of the
19   AP moves to the specifier of InAspP.
20   The null morpheme BECOME is a coercion marker and can turn the comparative state
21   into a dynamic one, and this is where the COS reading originates. Next, the cluster [A + μ]
22   moves up and adjoins to v, which is a special type of causative without a causer subject
23   (Wang 2021). Finally, I follow Cheng et al. (1999) and assume that a non-affixal element in
24   an upper head blocks the head movement of the lower one; therefore, the cluster does not
25   further move to V1 and the correct word order of a V-V resultative (i.e., V1+ V2 + DP) is
26   derived.

5. Concluding remarks

This study provides a syntactic analysis that accounts for the different aspectual readings of gradable adjectival predicates in Mandarin Chinese. Following Slabakova (2001), it proposes that such predicates contain a [α dynamic] feature that must be valued, and there are several different functional elements that function as value-assigners. The predicate can receive a [-] value and have a stative reading due to morphemes situated in a Degree Phrase, such as the adverbial *HEN* 'very,' *feichang* 'extremely,' and the semantically bleached *hen*. It can also receive a [-] value from a covert comparative morpheme. To understand the eventive and atelic reading, it is suggested that a covert atelic morpheme—base-generated in the head of the Inner Aspect Phrase—can assign the predicate with a [+] feature, given that all events, including atelic and telic, are dynamic (Smith 1997). In addition, the study substantiates the telic and COS reading of adjectives that function as the main predicate in one sentence and as the secondary predicate in others. It is argued that the telic and COS readings are caused by a coercion marker situated in the head of the Inner Aspect Phrase. Finally, the proposed analysis shows that a syntactic account is as plausible as a lexical one.

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