

Perfective Aspect and Accomplishment Situations in Mandarin Chinese*

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This paper addresses a difference between English and Chinese in how the perfective aspect interacts with accomplishment situations. We propose that the source of the difference lies in the different nominal systems between English and Chinese. Specifically, while English nominal heads have count/mass and plural/singular distinctions, Chinese nominal heads do not.

1. Introduction

It has been observed that Mandarin Chinese (MC) differs from English in that it is not contradictory to conjoin an accomplishment sentence with the perfective marker *-le* and an assertion that the event is not complete (Chu 1976, Tai 1984, Smith 1991, 1994, Sybesma 1997, 1999, Klein et al. 2000). For example, the MC example in (1) is acceptable, while the corresponding English example in (2) sounds contradictory.

(1) Wo zuotian xie-le yi-feng xin, keshi mei xie-wan.
I yesterday write-LE one-CL letter, but not write-finish
'I wrote a letter yesterday, but I didn't finish it.' (Tai 1984)

(2) #I wrote a letter yesterday, but I didn't finish writing it. (adapted from Smith 1991: 107)

Tai (1984) argues that MC differs from English in that there are no simple accomplishment verbs in MC (see also Sybesma 1997). An accomplishment verb in Chinese is expressed in the form of a resultative verb compound as shown in (3). A perfective sentence with a resultative verb compound cannot be followed by an assertion that the event is not complete.

(3) #Wo zuotian xie-wan-le yi-feng xin, keshi mei xie-wan.
I yesterday write-finish-LE one-CL letter, but not write-finish
'I finished writing a letter yesterday, but I didn't finish it.'

On the other hand, Smith (1991, 1994) argues that the source of the difference between English and MC lies in the aspectual marker. Unlike English, the perfective marker in MC, *-le*, indicates the termination of the event, and not the completion of the event. In other words, the event may be terminated (with an arbitrary final point) without having reached the natural end point in MC.¹

In this paper, we show that *-le* in MC does not always indicate termination in accomplishment situations. Specifically, we show that *-le* indicates the completion (and not just termination) of the event in situations involving certain objects of creation (compare Sybesma

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¹ Besides termination, *-le* may indicate the inception of the event when the situation does not have an inherent end point (Shi 1990).

1997: 252-253). In addition, we show that the completion of the event in a perfective accomplishment is necessary with a numeral object, but not with a demonstrative object (compare He 1993: 180, Zhang 1997). We propose an account for why completion is necessary with some objects of creation in MC, but not others. We also propose an analysis for why completion is necessary in perfective accomplishments with a numeral object, but not with a demonstrative object in MC. We claim that the difference between English and Chinese shown in (1) and (2) lies in their different nominal systems. Specifically, while English nominal heads have count/mass and singular/plural distinctions, Chinese nominal heads do not.

2. Created objects and non-created objects

2.1 Data

In this section, we show that the perfective *-le* indicates completion (and not just termination) in some accomplishment situations in MC. These accomplishment situations involve certain types of created objects such as *yi ge dangao* ‘a cake’ as an object of *zuo* ‘bake’, and *yi-jian fangzi* ‘a house’ or *yi zhuo qiao* ‘a bridge’ as an object of *zao* ‘build’. As shown in (4) and (5), it is contradictory to conjoin a perfective accomplishment sentence involving these created objects with an assertion that the event is not complete.²

- (4) #Ta zuo-le yi-ge dangao, keshi mei zuo-hao.
 he bake-LE one-CL cake but not bake-finish
 ‘He baked a cake, but did not finish it.’
- (5) #Ta zao-le yi-jian fangzi /yi-zhuo qiao, keshi mei zao-hao.
 he build-LE one-CL house / on-CL bridge but not build-finish
 ‘He built a house / a bridge, but did not finish it.’

No such contradiction is found with other objects of creation, such as *yi-feng xin* ‘a letter’ as an object of *xie* ‘write’ (see (1)), and *yi-fu hua* ‘a picture’ as an object of *hua* ‘draw’:

- (6) 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 it.’³

Other examples include *feng yi-jian yifu* ‘sew a dress/shirt’ and *ke yi-ge renxiang* ‘carve a portrait.’

The same verb of creation may or may not require that the event be completed, depending on the choice of the object.⁴ As shown in (7), there is a contrast between the created object *yi-fu hua* ‘a picture’ and *yi-ge quan-quan* ‘a circle’ in that the event must be completed in the latter,

² The sentences are acceptable when not followed by the assertion that the event is not complete.

³ *Hua-le yi-fu hua* can be translated as either ‘drew a picture’ or ‘painted a painting’. In this paper, I translate it with the former meaning.

⁴ Smollett (2001) observes the following related difference in English:

(i) Jack built a house ?? for a month. (ii) Jack built a Lego tower for three hours.

The difference is that in the real world, a Lego tower can be added onto indefinitely without being considered “finished”, while there is typically a point where we consider a house to be complete.

but not in the former. The same contrast is found between the created object *yi-feng xin* ‘a letter’ and *yi-ge zi* ‘a character’ as shown in (8).⁵

(7) Ta hua-le yi-fu hua/ #yi-ge quan-quan, keshi mei hua-wan.
he draw-LE one-Cl picture/ one-Cl circle but not paint-finish
‘He drew a picture/a circle, but he didn’t finish it.’

(8) Ta xie-le yi-feng xin/ #yi-ge zi, keshi mei xie-wan.
he write-LE one-Cl letter/one-Cl character but not write-finish
‘He wrote a letter/a character, but he didn’t finish it.’

With non-creation verb+object sequences, the completion of the event is not necessary. Therefore, (9) is acceptable.

(9) Wo zuotian kan-le yi-ben shu, keshi mei kan-wan.
I yesterday read-LE one-Cl book but not read-finish
‘I read a book yesterday, but I didn’t finish it.’

2.2 Analysis

Why is completion necessary with certain created objects, but not with other created objects or non-created objects? We suggest that there are two classes of created objects. In one class, the created object cannot be considered the relevant object until the process of creation has reached its inherent end point. We call this class of created objects No Partial Object (NPO). Examples include *yi-jian fangzi* ‘a house’ in a building event, *yi-ge dangao* ‘a cake’ in a baking event, *yi-ge quan-quan* ‘a circle’ and *yi-ge zi* ‘a word’ in a writing event. In these creation events, the object does not exist until the event reaches its inherent end point. For example, a circle can not be properly called ‘a circle’ until the first point in the drawing of a circle is connected to the last point. In another class of created objects, the object can be considered the relevant objects before the inherent end point of the event is reached.⁶ We call this class of created objects Allows Partial Object (APO). Examples include *yi-feng xin* ‘a letter’ in a writing event, *yi-fu hua* ‘a picture’ in a drawing event. In these creation events, a partial object that qualifies as the relevant object exists before the creation event reaches its inherent end point. For example, if the drawing event is stopped before reaching its inherent end point, the object created can still be called ‘a picture’. We suggest that whether a created object can be the relevant object depends on when we consider the object created. It seems that the NPO class of created objects has a clear point in which one considers the object created, unlike the APO class of created objects.

According to our analysis, an unfinished object of the NPO class (e.g., a house) cannot be considered the relevant object. This seems to be at odds with Parson’s (1989, 1990) claim that an unfinished object in the progressive can be considered the relevant object. For example, if Mary is building a house, there is a house that she is building. We think that the existence of a house in Parson’s example can only be as an abstract object (Verkuyl 1972, 1993). There is a difference

⁵ The difference cannot be attributed to whether or not the object is a cognate object. This is because while *hua* may be a cognate object of *hua-hua* ‘picture’, *zi* a cognate object of *xiezi* ‘writing’, they behave differently in that *hua-le yi-fu hua* ‘drew a picture’ need not be completed while *xie-le yi-ge zi* ‘wrote a word/character’ must be.

⁶ See Chan (1996) for the notion of a partial object.

between the perfective and the progressive aspect in that the object must be a physically existing object in the perfective.

We propose that in creation events, *-le* indicates the completion of the event leading to the creation of an object that qualifies as the relevant object. With the NPO class, *-le* indicates the completion of the event to the point where the object is created. With the APO class, *-le* indicates the completion of the event to the point where a partial object is created. An event must be completed with the NPO class because the event must reach its inherent end point before an object that qualifies as the relevant object is created. The completion of the event is not necessary with the APO class because the event does not need to reach its inherent end point for a partially created object to qualify as the relevant object. Because of the existence of a partial object, it is possible for certain creation events to not reach their inherent end points. The completion of the event is not necessary with non-creation events because the existence of the object does not depend on the completion of the event.⁷

3. Numeral objects versus demonstrative objects

3.1 Data

In this section, we show that in MC, the event must be completed when the perfective accomplishment sentence includes a numeral object, but not when the object is a demonstrative noun phrase. A clear contrast is found among non-creation events as shown in (10) and (11).

(10) Ta chi-le #**liang-ge dangao/na-ge dangao**, keshi mei chi-wan.
 he eat-LE two-Cl cake/ that-Cl cake but not eat-finish
 ‘He ate two cakes/that cake, but he did not finish them/it.’

(11) Ta kan-le #**liang-ben shu/ na-ben shu**, keshi mei kan-wan.
 he read-LE two-Cl book/that-Cl book but not read-finish
 ‘He read two books/that book, but he did not finish them/it.’

This generalization also holds when the object involves *yi* ‘a/one’, even though it may not seem so at first glance.

(12) a. 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 it.’

b. 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 it.’

⁷ The contrast between the NPO class of created objects versus the APO class of created objects and non-created objects can also be found in *ba*-constructions. The *ba*-construction is a construction where the direct object of a transitive verb is introduced by *ba-* in a pre-verbal position (e.g., *ta ba [na-wan fan] chi-le* ‘he ate that bowl of rice.’). A sentence with an NPO object must have a completive marker after the verb in *ba*-constructions (compare Yang 1995).

(i) Ta ba na-ge dangao *zuo-le/zuo-hao-le.
 He ba that-Cl cake make-le/make-complete-le
 ‘He baked that cake.’

No completive marker is required after the verb when the sentence has an APO object or a non-created object.

In general, *yi* ‘a/one’ in MC can be interpreted either as an indefinite determiner or the numeral one. However, the sentences in (12) are fine only when *yi* ‘one/a’ is interpreted as an indefinite determiner, rather than as a numeral.

When the sentence contains a creation verb with an NPO object, the contrast between a demonstrative object and a numeral object can not be detected. This is shown in (13). The sentence sounds contradictory whether the object involves a numeral or a demonstrative determiner. This is because when the creation event involves an NPO object, the event must reach the inherent end point regardless of the form of the object.

- (13) #Ta zuo-le **liang-ge dangao/yi-ge dangao/na-ge dangao**, keshi mei zuo-hao.
he bake-LE two-Cl cake/ one-Cl cake/ that-Cl cake but not bake-finish
‘He baked two cakes/a (one) cake/that cake, but he did not finish them/it.’

When the sentence contains a creation verb with an APO object, the contrast between a numeral and a demonstrative object surfaces, as shown in (14). This is because the creation event must reach the point where the partially created object qualifies as the relevant object. There is no requirement that the inherent end point of the event be reached.

- (14) a. Ta hua-le **#liang-fu hua/ na-fu hua**, keshi mei hua-wan.⁸
he draw-LE two-Cl picture/ that-Cl picture but not draw-finish
‘He drew two pictures/that picture, but he didn’t finish them/it.’
- b. 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 picture, but he didn’t finish it.’

We propose an analysis for why completion is necessary with a numeral object but not with a demonstrative object in MC in the following section.

3.2 Analysis

3.2.1 Assumptions

Following Jackendoff (1991), we assume that nominal arguments may bear the features \pm bounded [\pm b] and \pm internal structure [\pm i]. The boundedness feature indicates whether the boundaries of an entity are in view or are of concern. The internal structure feature indicates whether the entity has inherent division into discrete members. We assume the feature specification given in (15) for English nouns (see Jackendoff 1991:20).

⁸ The demonstrative object behaves like a bare noun phrase, which is potentially mass. It is not contradictory to conjoin a perfective accomplishment sentence with a bare noun phrase object and an assertion that the event is not complete (Sybesma 1997: 253). For example, *ta chi-le dangao, keshi mei-you chi wan* ‘he was eating cake, but he did not finish’ is fine in MC.

(15)	<u>English</u>			
	bare mass nouns	[-b, -i]	substances	(custard, water)
	bare plurals	[-b, +i]	aggregates	(sandwiches, buses)
	singular count nouns	[+b, -i]	individuals	(the sandwich, a bus)
	numeral plurals	[+b, +i]	aggregates	(3 sandwiches, 4 buses) ⁹

Our analysis capitalizes on a well-known observation that the nature of the nominal argument affects the aspectual properties of an event (Verkuyl 1972, 1993, Smith 1991, Krifka 1989, 1992, 1998, Tenny 1992, Jackendoff 1996, Liu 1997, Sybesma 1999, Yang 1997 among others). With an accomplishment verb, when the nominal argument is [+b] (e.g., *the apple, fifteen sandwiches*), the event is telic/bounded. It can be followed by temporal adverbials such as *in an hour*, but not *for an hour*.

- (16) a. Bill ate the apple/fifteen sandwiches in an hour.
 b. Bill ate ??the apple/*fifteen sandwiches for an hour. (Jackendoff 1996: 306)

When the nominal argument is [-b] (e.g., *custard, sandwiches*), the event is atelic/non-bounded. It can be followed by temporal adverbials such as *for an hour*, but not *in an hour*.¹⁰

- (17) a. *Bill ate custard/sandwiches in an hour.
 b. Bill ate custard/sandwiches for an hour. (Jackendoff 1996: 307)

Following Smith (1991: 106-107), we assume that the perfective aspect indicates completion in a telic/bounded event, but termination in an atelic/non-bounded event.

Unlike Jackendoff (1991), we assume that the features are encoded in the nominal head, and nominal projections, in a bottom-up manner.¹¹ (18) shows the feature specifications of English noun phrases. The structure of a bare mass noun is given in (18a). The N head of a bare noun is specified as [-b, -i]. This feature specification percolates up to the NP and the DP level. (18b) shows the structure of a bare plural. The head noun is specified as [-b, +i], with the feature specification percolating up to the NP and the DP level. The same applies to a singular count noun as shown in (18c), which is specified as [+b, -i] at the N-level, and at the NP and DP level. Unlike a bare mass noun, a bare plural or a singular count noun, the feature specification on a numeral plural is different at the N-level from its specification at the DP level, as shown in (18d). At the N-level, a numeral plural is specified as [-b, +i] (like a bare plural). This feature specification percolates up to the NP-level. We assume that a numeral changes the boundedness feature of the constituent it selects from [-b] to [+b]. As a result, at the level of NumP, the constituent is specified as [+b, +i], and this feature specification percolates up to the DP level.

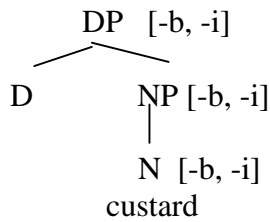
⁹ Besides numeral plurals, groups such as *a committee* are also [+b,+i] (Jackendoff 1991:20, Verkuyl 1993:230).

¹⁰ Jackendoff's notion of boundedness can be interpreted in terms of [+Specified Quantity of A] and [+ADD TO] (Verkuyl 1993: 230).

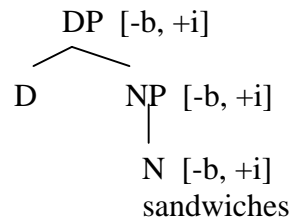
¹¹ See Verkuyl (1972, 1993) for the idea that aspect is compositionally determined on the basis of semantic information expressed by different syntactic elements.

(18) *DP: Determiner Phrase; NumP: Number Phrase; NP: Noun Phrase*

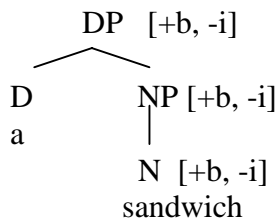
a. Bare mass nouns [-b, -i]



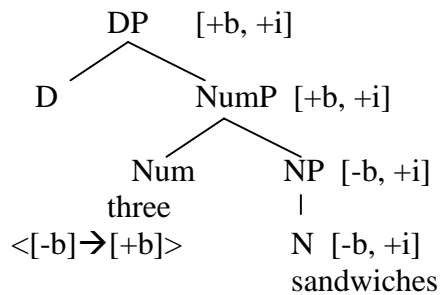
b. Bare plurals [-b, +i]



c. Singular count nouns [+b, -i]



d. Numeral plurals [+b, +i]



The effect of a numeral on the boundedness feature can be observed in (19).

- (19) a. Bill ate sandwiches *in an hour/for an hour.
 b. Bill ate fifteen sandwiches in an hour/*for an hour. (Jackendoff 1996: 306-307)

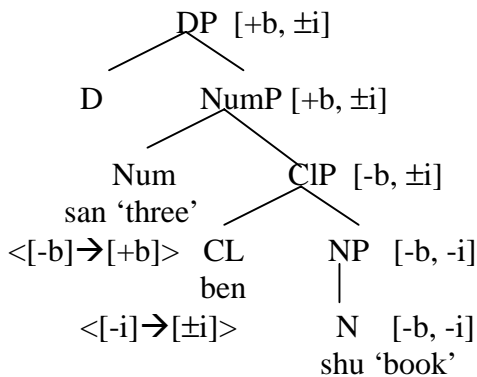
Besides numerals, we assume that the definite determiner and the demonstrative change the boundedness feature of the constituent they select from [-b] to [±b] (cf. Jackendoff 1996). [±b] means that the constituent has the option of being either [+b] or [-b]. For example with a bare mass noun in (20a), the event is atelic/non-bounded. With the addition of the definite determiner in (20b), the sentence may present either a telic/bounded or an atelic/non-bounded event.

- (20) a. Bill ate custard for hours/*in an hour.
 b. Bill ate the custard for hours/in an hour. (Jackendoff 1996: 307)

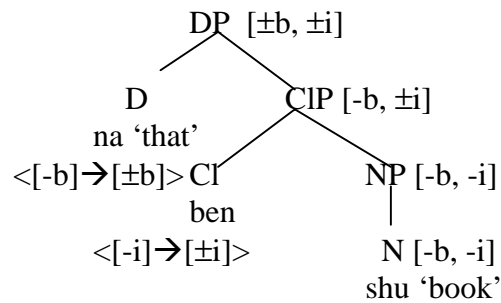
(21a) and (21b) show the effect of the definite determiner and demonstrative on the boundedness feature of the constituent. Note that the definite determiner and the demonstrative do not affect the boundedness feature of the selected constituent if the constituent is specified as [+b] as shown in (21c) and (21d).

constituent (i.e., CIP) to [+b]. The resulting feature specification percolates up to the DP level and a numeral expression in MC receives [+b, ±i] specification. On the other hand, a demonstrative noun phrase in MC is [±b, ±i] as shown in (24b). At the N-level, the noun is mass and it is specified as [-b, -i]. This feature specification percolates up to the NP level. The classifier changes the [-i] feature of the NP constituent to [±i], and as a result, the CIP is specified as [-b, ±i]. A demonstrative changes the [-b] feature to [±b] and the resulting feature specification percolates up to the DP level.

(24) a. Numeral expressions [+b, ±i]
san ben shu ‘three books’



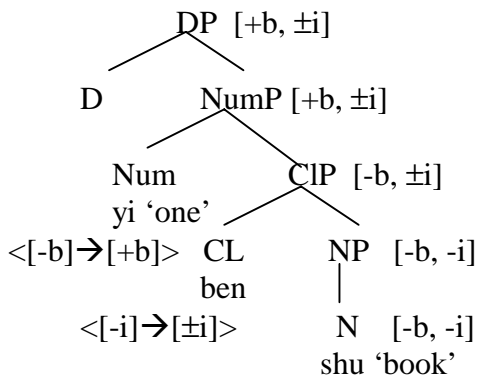
b. Demonstrative noun phrases [±b, ±i]
na ben shu ‘that book’



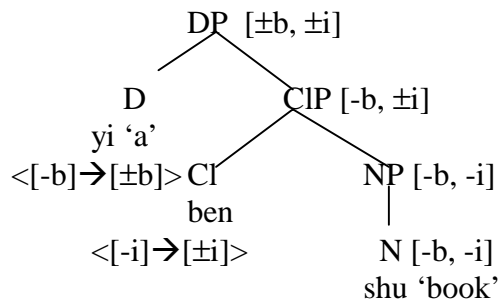
We assume following Smith (1991: 106-107) that *-le* indicates completion in a telic/bounded event, but termination in an atelic/non-bounded event. Because a situation presented by an accomplishment verb and a [-b] object is atelic/non-bounded, *-le* indicates termination when the object is [-b]. Because a situation presented by an accomplishment verb and a [+b] object is telic/bounded, *-le* indicates completion when the object is [+b]. Given that the demonstrative object allows for either [+b] or [-b] specification, the perfective *-le* may indicate either the termination or the completion of the event. Since the numeral object is specified only as [+b], *-le* can only indicate the completion of the event. The difference between a numeral object and a demonstrative object results from the different effects a numeral and a demonstrative have on the boundedness feature of the nominal projection (see (22)).

The same analysis can be extended to account for why completion is necessary with the numeral one and not with the indefinite determiner. When *yi* is interpreted as a numeral, the noun phrase is [+b, ±i] as shown in (25a). When *yi* is interpreted as an indefinite determiner, the noun phrase is [±b, ±i] as shown in (25b). An indefinite determiner is like a demonstrative. It changes [-b] to [±b]. When the object is [+b] (e.g., *yi ben shu* ‘one book’), the perfective accomplishment event must be completed. When the object is [±b] (e.g., *yi ben shu* ‘a book’), the event may be terminated and not completed.

(25) a. Numeral expressions [+b, ±i]
yi ben shu ‘one book’



b. Indefinite noun phrases [±b, ±i]
yi ben shu ‘a book’



4. A new account of the difference between English and Mandarin Chinese

Our analysis provides a novel explanation for the difference between English and MC shown by the contrast between (1) and (2). We claim that the difference between English and MC is related to their different nominal systems. In our analysis, we assume that English head nouns have count/mass and singular/plural distinctions, while MC head nouns are mass (Chierchia 1998, Cheng and Sybesma 1998). Because of this difference, English singular count nouns start out as [+b, -i] and MC nouns start out as [-b, -i]. Since the features of the head nouns start out differently in English and MC, the features of the DPs are also different in these two languages. MC definite/indefinite noun phrases are [±b, ±i] as shown in (24b) and (25b). English definite/indefinite singular count noun phrases are [+b, -i] as shown in (18c) and (21c). Because English definite/indefinite singular count noun phrases are [+b], completion is necessary. Given that Chinese definite/indefinite noun phrases are [±b], completion is not necessary.

5. Conclusions and Implications

We propose that certain objects of creation require the perfective creation event to reach its inherent end point. We suggest that this is related to our knowledge of when a particular object of creation is considered created. We propose that in MC, a numeral object has the feature [+bounded] while a demonstrative object may be [+bounded] or [-bounded]. This difference is responsible for the fact that completion is necessary with a numeral object, but not with a demonstrative object. We claim that the difference between English and Chinese is related to the fact that English head nouns have count/mass and singular/plural distinctions while Chinese head nouns are mass (Chierchia 1998, Cheng and Sybesma 1998). Our analysis makes a clear prediction about cross-linguistic differences in how the perfective aspect interacts with accomplishment situations. Classifier languages are often distinguished from non-classifier languages by the general use of classifiers, the lack of singular/plural marking on nouns and the fact that head nouns are mass.¹³ Our analysis predicts that in classifier languages, the perfective aspect does not always indicate completion in accomplishment situations.

¹³ There are a number of classifier languages which appear to have plural markers (e.g., many Iranian and Turkic languages, Korean). However, Greenberg (1972: 184) notes that these markers are not plural markers but rather individualizers like classifiers.

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