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## Chapter 5 Future

This chapter investigates the “future” construals of bare sentences (sentences with bare predicates) in Mandarin. We show that the temporal reference of the eventualities described by bare sentences cannot be freely shifted into the future by adverbs denoting future times, supporting a covert tense hypothesis for Mandarin. Based on Matthewson (2006)’s “tensed” analysis of St’át’imcets, we argue for a null tense NONFUT in Mandarin, restricting the RT of bare sentences to non-future times.

In Mandarin, there are also bare sentences that allow future readings with appropriate future time adverbs. We show that whether a bare sentence can receive future readings depends (most of the time) on whether the eventuality described by the predicate can be scheduled or controlled. The similarities that we find between bare sentences allowing future-oriented readings in Mandarin and present-tensed sentences allowing future-oriented readings (referred to as *futurate* sentences) in English and French suggest that future construals in languages with or without overt tense morpheme might have common sources. We follow Copley (2008b)’s analysis of futurates in English, and argue that the future construals of bare sentences in Mandarin are licensed by implicit modal ingredients.

This chapter is organized as follows:

- i. Section 5.1 examines the interaction between bare predicates and temporal adverbs. In particular, we show that while past and present time adverbs can fix the temporal reference of bare sentences in the past or in the present, future time adverbs cannot fix freely the temporal reference of bare sentences in the future. In contrast, a modal verb is used to license future construals.
- ii. In Section 5.2, we discuss temporal analyses of languages with no morphological tense. On the basis of the facts discussed in Section 5.1 and other empirical evidence, we argue for a covert tense NONFUT in Mandarin in Section 5.3.

- iii. Section 5.4 compares bare sentences yielding future construals in Mandarin with futurate sentences in English and French. We propose a modal treatment of future construals of bare sentences.

## 5.1 Future and adverbs

In Chapter 3, we discussed temporal interpretations of aspectually unmarked sentences in out-of-the-blue contexts, that is, in the absence of any explicit or implicit time adverbs. In this section, we examine temporal construals of bare sentences with an overt temporal adverbial. In particular, we investigate whether a future time adverb can shift the temporal reference of bare sentences to future times.

By “temporal adverbial”, we refer particularly to the so-called “frame setting temporal adverbial”, which denotes a time interval in which an event is asserted to be true or to take place. (cf. Bennett & Partee 1978) A frame adverbial can be either indexical (*today, last year, next month*) or non-indexical (*in 1911, on October 10, 1911*). It indicates either a moment of time (*at noon, in five minutes*) or an interval of time (*next week*).

In the literature, temporal adverbs are often argued to play an important role in temporally locating eventualities in languages with no morphological tense. However, we observe an asymmetry between past / present time adverbs on the one hand and future time adverbs on the other in their interaction with bare sentences in Mandarin:

- i) Root clauses with bare stative predicates *can* be modified by appropriate past or present time adverbs, yielding past or present stative readings;
- ii) Root clauses with bare eventive predicates *can* be modified by past or present time adverbs denoting sufficiently large time intervals, yielding past or present generic readings;
- iii) Future time adverbs *cannot* combine freely with sentences with bare predicates: some bare sentences allow future-oriented readings with future time adverbs, others require a modal to license future construals.

We will thus conclude that future time adverbials behave differently from past and present time denoting adverbials when combined with bare predicates.

### 5.1.1 Bare stative predicates

In the previous chapters, we have shown that in the absence of an explicit or implicit temporal adverb, sentences with a bare state receive present stative readings. This section examines the distribution of future time adverbials in sentences with a bare state in order to figure out whether a future time adverb can fix by itself the temporal reference of sentences with stative bare predicates (BPs).

#### 5.1.1.1 Stative BPs and past/present time adverbs

We have shown in Chapter 3 that root clauses with stative BPs, such as (1) and (2) below, receive present readings when they are uttered out-of-the-blue.

- (1) a. Lùlù hěn jǔsàng.  
Lulu very frustrated  
'Lulu is very frustrated.'
- b. Wáng lǎoshī hěn máng.  
Wang professor very busy  
'Professor Wang is very busy.'
- (2) a. Yáo Míng hěn gāo.  
Yao Ming very tall  
'Yao Ming is very tall.'
- b. Xiǎoxīn hěn cōngmíng.  
Xiaoxin very smart  
'Xiaoxin is very smart.'
- c. Yīchén xǐhuān lǚxíng.  
Yichen like travel  
'Yichen likes travelling'

Stative BPs such as *jǔsàng* 'frustrated' in (1a) and *hěn máng* 'busy' in (1b) are compatible with temporal adverbials denoting a moment (*gāngcái* 'just now') or an interval (*shàng-ge-yuè* 'last month') of time in the past, yielding past stative readings, as shown in (3) below.

- (3) a. Lùlu *gāngcái* hěn jǔsàng.  
 Lulu just.now very frustrated  
 ‘Lulu was very frustrated just now.’
- b. Wáng lǎoshī *shàng-ge-yuè* hěn máng.  
 Wang professor last-CL-month very busy  
 ‘Professor Wang was very busy last month.’

The same stative BPs - *jǔsàng* ‘frustrated’ or *máng* ‘busy’ - can also be modified by a temporal adverb referring to a time that includes the UT, yielding present stative readings, as shown in (4) below:

- (4) a. Lùlu *cǐ-shí-cǐ-kè* hěn jǔsàng.  
 Lulu this-time-this-moment very frustrated  
 ‘Lulu is very frustrated right now.’
- b. Wáng lǎoshī *zhèi-ge-yuè* hěn máng.  
 Wang professor this-CL-month very busy  
 ‘Professor Wang is very busy this month.’

In contrast, there are sentences with stative BPs that sound odd when modified by temporal adverbs. This is the case with (5) and (6) below:

- (5) a. #Yáo.Míng *gāngcái* hěn gāo.  
 Yao.Ming just.now very tall
- b. #Yáo.Míng *cǐ-shí-cǐ-kè* hěn gāo.  
 Yao.Ming this-time-this-moment very tall
- (6) a. #Xiǎoxīn *zuótiān* hěn cōngmíng.  
 Xiaoxin yesterday very smart
- b. #Xiǎoxīn *jīntiān* hěn cōngmíng.  
 Xiaoxin today very smart

(5) and (6) differ from (3) and (4) in the lexical properties of the predicates: *gāo* ‘tall’ in (5) and *cōngmíng* ‘smart’ in (6) describe stable properties of an individual that do not change from one moment to another. Consequently, they are incompatible with adverbs referring to “short” time intervals like *gāngcái* ‘just now’ in (5a) and *zuótiān* ‘yesterday’ in (6b).

However, we can set up a specific context in which (6a) can be felicitously uttered. Suppose that:

*Yesterday, Xiaoxin, who is not one of the smartest boys, found (maybe accidentally) a very ingenious solution to a problem.*

We can then use (6a) to communicate that *Xiaoxin* was *being* smart during that specific event. In this case, the adjective *cōngmíng* is used to describe a temporary property instead of a long-standing one, explaining why (6a) is acceptable in this scenario.

Since Carlson (1977), predicates like *tall* have been classified as typical “*individual-level*” predicates, that is, they describe stable properties that do not vary during a relatively large time span. In contrast, predicates like *jǔsàng* ‘frustrated’ or *máng* ‘busy’ are “*stage-level*” predicates denoting transitory properties. As a consequence, *individual-level* and *stage-level* predicates interact differently with time adverbs: *stage-level* predicates and not *individual-level* predicates are compatible with adverbs denoting time points or short time intervals (see also Kratzer 1995 and Chierchia 1995).

The oddness of (5) and (6) above results from the incompatibility of the lexical meaning of the “*individual-level*” predicate and the *size* of the interval denoted by the time adverb. In other words, the temporal location (*past* or *present*) of the interval in question is not relevant.

To summarize, our data suggest that root clauses with stative BPs yield stative readings, and the eventualities denoted by stative BPs can be temporally anchored in the past or in the present by appropriate past or present time adverbs.

### 5.1.1.2 *Stative BPs and future time adverbs*

We deal now with the interaction of stative BPs with future time adverbials. We will see that future cases do not have the same pattern that we identified in past / present cases.

Consider (7) below:

- (7) a. *Míngtiān*      Lùlù    \*(huì) hěn      jǔsàng.  
          tomorrow    Lulu    MOD very      frustrated  
          ‘Tomorrow, Lulu will be very frustrated.’

b. Yīchén	zhǎngdà	yǐhòu	*(jiānghuì)	hěn
Yichen	grow.up	after	MOD	very
xǐhuān	lǚxíng.			
like	travel			

‘Yichen will like travelling when she grows up.’

The stative BPs *hěn jǔsàng* ‘very frustrated’ in (7a) and *xǐhuān lǚxíng* ‘like travelling’ in (7b) cannot combine directly with future time adverbials like *míngtiān* ‘tomorrow’ or *zhǎngdà yǐhòu* ‘when (she) grows up’ to yield future states. Both (7a) and (7b) are ill-formed without a modal.

Notice that future and past time adverbs have asymmetrical behaviors as to their interaction with stative predicates: while past time adverbs can shift the temporal reference of bare states to the past, future time adverbs fail to fix the temporal reference of bare stative predicates in the future, as shown by the contrast between (8) below and (7) above:

- (8) a. *Zuótiān* Lùlu hěn jǔsàng.  
 yesterday Lulu very frustrated  
 ‘Yesterday, Lulu was very frustrated.’
- b. *Xiǎoshíhou* Yīchén hěn xǐhuān lǚxíng.  
 childhood Yichen very like travel  
 ‘Yichen liked travelling when she was a child.’

At this point, the question arises: how can we explain the asymmetry between the future and past construals of sentences with stative predicates? Recall our analysis of temporal readings of sentences with stative BPs presented in Chapter 3. We claimed that bare states, being properties of intervals, combine directly with a time. The value of this (reference) time can be provided either by an adverb or by the context. The reader may have noticed that we have said nothing about constraints on the value of this time. Now that we have seen the incompatibility of future time adverbs with bare states like *jǔsàng* ‘frustrated’, we need to reconsider the initial version of our analysis. As it stands, it will not carry over to and account for the asymmetry just established: past/present *vs.* future time adverbs in sentences with stative BPs. This issue will be developed in Section 5.3,

where we argue for a covert tense NONFUT in Mandarin (cf. Matthewson 2006).

The observation above is not yet the whole picture of the interactions between future time adverbs and bare stative predicates. Crucially, some bare stative predicates *can* combine with future time adverbs and allow future readings. Consider (9) below:

- (9) a. *Míngtiān* Lùlu hěn máng.  
tomorrow Lulu very busy  
'Tomorrow, Lulu will be very busy.'
- b. *Xiǎoxīn jīnwǎn zài jiā.*  
Xiaoxin tonight at home  
'Xiaoxin will be at home tonight.'
- c. *Míngnián tāmen zhù zài Běijīng.*  
next.year 3PL live at Beijing  
'Next year, they will live in Beijing.'

Bare states like *hěn máng* 'very busy' in (9a), *zài jiā* 'at home' in (9b) and *zhù zài Běijīng* 'live in Beijing' in (9c) are compatible with adverbs referring to future time intervals, such as *míngtiān* 'tomorrow', *jīnwǎn* 'tonight' and *míngnián* 'next year'. (9a), (9b) and (9c) are grammatical and describe states that are temporally located after the UT.

If we compare (9) with the sentences discussed earlier in (7), bare stative predicates seem to have different behaviors as to their compatibility with future time adverbs. Some stative BPs - *hěn máng* 'very busy', *zài jiā* 'at home' and *zhù zài Běijīng* 'live in Beijing' in (9) - can combine with future adverbs, yielding future construals, while other stative predicates - *hěn jǔsàng* 'very frustrated' and *xǐhuān lǚxíng* 'like travelling' in (7) - require a modal to allow future readings.

The contrast between (9) and (7) is important for our understanding of future readings: we should be able to explain why a modal is required in one case, but not in the other. A similar contrast is also observed with eventive BPs (Section 5.1.2). We argue for a correlation between the schedulability of the eventuality and the presence of a modal in licensing future construals in Section 5.4. We claim that the future readings of sentences with BPs are similar to the

futurate readings of present tensed sentences in English and French: there is no covert future tense, but a covert modal ingredient in bare sentences yielding future construals.

To sum up, past and present time adverbs can be used to temporally anchor states described by sentences with stative BPs (thereby yielding past or present readings); while future time adverbs cannot freely combine with sentences with stative BPs. Some stative predicates require a modal to allow future readings.

### 5.1.2 Bare eventive predicates

This section examines the interaction between eventive predicates and time adverbs in order to establish whether there is the same asymmetry between past/present time adverbs and future time adverbs observed in sentences with stative predicates. We show that future time adverbs do not license future construals for all sentences with eventive BPs: a modal is required in some cases.

#### 5.1.2.1 Eventive BPs and past/present adverbs

Sentences with bare eventive predicates (*activities*, *accomplishments* and *achievements*) only allow generic readings. They can be modified by past or present time adverbs and yield past or present generic construals as long as the interval denoted by the modifying adverb is *long* enough. Consider (10)-(12):

- (10) a. Gǔlóng      *niánqīng*      *shí*      chōuyān.  
 Gulong      youth      time      smoke  
 ‘Gulong used to smoke when he was young.’
- b. Gǔlóng      *zhèi-jǐ-ge-yuè*      chōuyān.  
 Gulong      this-many-CL-month      smoke  
 ‘Gulong smokes these months.’
- c. #Gǔlóng      *gāngcái*      chōuyān.  
 Gulong      just.now      smoke  
 Intended: ‘Gulong smoked just now.’
- (11) a. Wēiwei      *nèi-xiē-nián*      pǎo      sì-bǎi      mǐ.  
 Weiwei      that-CL.PL-year      run      four-hundred      meter  
 ‘Weiwei used to run four hundred meters those years.’

- b. Wēiwei *jìn-jǐ-nián* pǎo sì-bǎi mǐ.  
 Weiwei recent-many-year run four-hundred meter  
 ‘Weiwei runs four hundred meters these years.’
- c. #Wēiwei *zuótiān* pǎo sì-bǎi mǐ.  
 Weiwei yesterday run four-hundred meter  
 Intended: ‘Weiwei ran four hundred meters yesterday.’
- (12) a. *Nèi-shíhòu* jīnglǐ bā-diǎn dào.  
 that-time manager eight-o’clock arrive  
 ‘At that time, the manager used to arrive at eight.’
- b. *Zhèi-jǐ-gè yuè* jīnglǐ bā-diǎn dào.  
 this-many-CL month manager eight-o’clock arrive  
 ‘The manager arrives at eight these months.’
- c. ?*Zuótiān* jīnglǐ bā-diǎn dào.  
 yesterday manager eight-o’clock arrive  
 Intended: ‘The manager arrived at eight yesterday.’

The sentences in (10) contain the bare activity *chōuyān* ‘smoke’. They are compatible with the time adverbs *niánqīng shí* ‘when he was young’ in (10a) and *zhèi-jǐ-ge-yuè* ‘these months’ in (10b), but incompatible with *gāngcái* ‘just now’ in (10c). In (11), the bare accomplishment *pǎo sì-bǎi mǐ* ‘run 400 meters’ can combine with the past time adverb *nèi-xiē-nián* ‘those years’ or the present time adverb *jìn-jǐ-nián* ‘these years’, but not with the adverb *zuótiān* ‘yesterday’. In a similar way, the bare achievement *dào* ‘arrive’ forms a grammatical sentence with adverbs like *nèi-shíhòu* ‘that time’ ((12a)) or *zhèi-jǐ-gè yuè* ‘these months’ ((12b)), but not with *zuótiān* ‘yesterday’ ((12c)).

This is so because, as we claimed, sentences with eventive BPs only allow *generic* readings, and since generic properties are most likely based on series of events within a large time span, only time adverbs denoting relatively *long* time intervals are compatible with generic sentences.

The adverbs in the “a” and “b” examples denote large time intervals (either in the past or in the present), and therefore they are compatible with generic properties, giving rise to past or present generic readings. In contrast, the “c” examples are not felicitous due to the incompatibility of the “short” time intervals denoted by the

adverbs and the generic properties. Given the lack of overt aspect markers in these sentences, episodic readings are not licensed.

The notion of “large” as to intervals is relative: an interval is appropriate relative to a generic property as long as it is large enough to contain a certain number of (discontinuous) instantiated events based on which a generalization can be made. An interval of a certain size can be appropriate for evaluating one generic property but not another. Take the adverb *shàng-zhōu* ‘last week’ for example. It can felicitously combine with *jīngcháng kū* ‘often cry’ in (13a) below, but is much less appropriate for the property of “often watching movies on weekends” conveyed by the predicate in (13b).

- (13) a. *Shàng-zhōu* Lùlu jīngcháng kū.  
 last-week Lulu often cry  
 ‘Lulu often cried last week.’
- b. #*Shàng-zhōu* Lùlu jīngcháng zhōu-mò  
 last-week Lulu often week-end  
 kàn diànyǐng.  
 watch film

#“Lulu often watched movies on weekends last week.”

What we learn from (10)-(13) is that appropriate past or present time adverbs (referring to long enough intervals) can modify sentences with eventive BPs, yielding past or present generic construals.

### 5.1.2.2 Eventive BPs and future time adverbs

Let us now turn to future time adverbs. An obvious question is whether they bear the same restrictions as past time adverbs in sentences with eventive BPs. In other words, can adverbs denoting large future time intervals combine with eventive BPs, yielding generic construals in future times? Consider (14) below:

- (14) a. \*Lùlu *xià-zhōu* jīngcháng kū.  
 Lulu next-week often cry  
 Intended: ‘Lulu will often cry next week.’

- b. \**Míngnián* Zhōngguó duì hěn-shǎo yíng-qíú.  
 next.year China team very-few win-ball  
 Intended: ‘The Chinese team will rarely win next year.’

The adverbs in both (14a) and (14b) refer to time intervals that are in principle long enough for the generic property denoted by each predicate to hold: *xià-zhōu* ‘next week’ in (14a) refers to a time span that is long enough to contain a series of crying events, and as such, validate the generalization ‘Lulu often cries’ (cf. (13a) above). Similarly, *míngnián* ‘next year’ in (14b) refers to an interval during which a number of matches could take place, and thus can be associated with the generalization ‘rarely wins’. However, neither (14a) or (14b) is felicitous. To rescue them from ill-formedness, a modal is required, as shown in (15):

- (15) a. Lùlù xià-zhōu huì jīngcháng kū.  
 Lulu next-week MOD often cry  
 ‘Lulu will often cry next week.’

- b. *Míngnián* Zhōngguó duì jiāng hěn-shǎo  
 next.year China team MOD very-few  
 shū-qíú.  
 lose-ball

‘The Chinese team will rarely lose next year.’

(14) and (15) show that future generic readings are not obtained directly by combining eventive BPs with an adverb denoting a long future time span, contrary to the past generic readings of sentences with eventive BPs in (10a), (11a) and (12a). Does this mean that future generic readings of sentences with eventive predicates are only licensed by modal verbs? Consider (16) below:

- (16) a. *Xià-ge-yuè* Xiǎoxīn zǎoshàng hē  
 next-CL-month Xiaoxin morning drink  
 kāfēi.  
 coffee  
 ‘Xiaoxin will drink coffee in the morning next month.’

- b. Mǐqílín     *jīnhòu*     měi-nián     jiàn  
 Michelin     henceforth     every-year     build  
 liǎng-jiā     gōngchǎng.  
 two-CL     factory

‘Michelin will henceforth build two factories every year.’

- c. Jīnglǐ     *jīnhòu*     bā-diǎn     dào.  
 manager     henceforth     eight-o’clock     arrive  
 ‘The manager will henceforth arrive at eight.’

These sentences with no modal verb are grammatical and report regular events in the future, suggesting that future generic readings *can* be obtained without a modal for *some* bare eventive predicates.

The obvious question is why the sentences in (14a, b) are ungrammatical while those in (16a-c) are good. This issue will be addressed in Section 5.4: we show that bare sentences allow future readings when the event described by the predicate can be planned (Copley 2008b).

We can conclude that there is an asymmetry between past and future generic construals of sentences with eventive BPs: while past generic construals can be derived as long as the past time adverbs are appropriate (denoting long intervals) for the relevant generic properties, future generic construals cannot be automatically obtained by the combination of eventive BPs with future time adverbs, even if the latter denotes time intervals compatible with the generic properties described by the VP. Some eventive predicates require a modal to yield future construals.

Moreover, this is not the only difference between future time adverbs and past time adverbs, regarding their interaction with sentences with eventive BPs. As we shall see, eventive BPs allow future-oriented “episodic” readings with appropriate adverbs, while they do not allow past episodic readings. Consider (17), (18) and (19) below:

- (17) a. Lìsì     *míngtiān*     dǎ     wǎngqiú.  
 Lisi     tomorrow     play     tennis  
 ‘Lisi will play tennis tomorrow.’

- b. Gǔlóng      xià-kè      yǐhòu      chōuyān.  
 Gulong      down-class      after      smoke  
 ‘Gulong will smoke after the class.’<sup>49</sup>
- (18) a. Mǐqílin      míngnián      jiàn      liǎng-jiā      gōngchǎng.  
 Michelin      next.year      build      two-CL      factory  
 ‘Michelin will build two factories next year.’
- b. Mòyán      míngnián      xiě      yì-běn      shū.  
 Moyan      next.year      write      one-CL      book  
 ‘Moyan will write a book next year.’
- (19) a. Xiǎoxīn      jīnwǎn      dào.  
 Xiaoxin      tonight      arrive  
 ‘Xiaoxin will arrive tonight.’
- b. Lǐ Níng      míngwǎn      shídiǎn      diǎnrán  
 Li Ning      tomorrow.night      ten-o’clock      light  
 shèng-huǒ  
 saint-fire  
 ‘Li Ning will light the cauldron tomorrow night at ten.’

(17), (18) and (19) contain future time adverbs referring to either intervals or moments of time, and they are construed as future-oriented *episodic* events, but not generic properties. (17a) reports an event of Lisi playing tennis the day after the UT; (18b) reports an event of Moyan writing a book the year after the year containing the UT; and (19a) conveys that Xiaoxin’s arrival will be during the night of the day of the UT. Recall that when sentences with eventive BPs have a past interpretation, *only generic* readings are available. The sentences in (16)-(19) clearly show that when sentences with eventive BPs receive future readings, *both generic and episodic* readings are available. In other words, past time adverbs cannot combine with eventive BPs and yield episodic events (cf. (10c), (11c) and (12c), while future time adverbs can (cf. (17), (18) and (19)). This

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<sup>49</sup> Another possible reading of this sentence is *Gulong (generally) smokes after class*, and this reading will not be relevant to our current discussion.

constitutes the second difference between future and past interpretations of eventive BPs.

However, not all eventive BPs allow future-oriented episodic construals. Some sentences with an eventive BP and a future time adverb are much less acceptable than the cases discussed in (16)-(19). Consider (20) and (21) below:

- (20) a. ??Lùlu yìhuìr kǔ.  
 Lulu a.moment cry  
 Intended: ‘Lulu will cry in a moment.’<sup>50</sup>
- b. Lùlu yìhuìr huì kǔ.  
 Lulu a.moment MOD cry  
 ‘Lulu will cry in a moment.’
- (21) a. \*Zhōngguó duì míngtiān yíng.  
 China team tomorrow win  
 Intended: ‘The Chinese team will win tomorrow.’
- b. Zhōngguó duì míngtiān huì yíng.  
 China team tomorrow MOD win  
 Intended: ‘The Chinese team will win tomorrow.’

The bare sentence in (20a) is odd. To convey that *Lulu* will cry in a moment, the utterance with a modal *huì* in (20b) is much more natural. The sentence with a bare achievement *yíng* ‘win’ also requires a modal *huì* to felicitously convey a future event. In cases like (20) and (21), a modal is required to yield future episodic readings, contrary to (17), (18) and (19).

Recapitulating what we have seen for the temporal interpretation of sentences with eventive BPs, there is an asymmetry between past and future construals:

i) Past: Sentences with eventive BPs only allow generic readings, thus require past adverbs denoting long time intervals to fix the

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<sup>50</sup> We can set up a very specific context in which this sentence is acceptable. Imagine that Lulu has a role in a play where she is supposed to cry at a particular moment. One can utter (20) just before her crying scene to inform others about the scenario.

generic properties into the past. The episodic past readings are only licensed by overt aspect (cf. Chapter 3).

ii) Future: Some sentences with eventive BPs require a modal to yield future-oriented generic or episodic readings; and others can receive future-oriented generic or episodic readings without a modal.

### 5.1.3 Bare predicates and modals

We have just seen that both in sentences with stative BPs and those with eventive BPs, there is an asymmetry between past and future construals. The past readings can be obtained by the presence of appropriate past time adverbs (compatible with the stative or the generic property denoted by the predicate), while the licensing of future readings bears restrictions. Future time adverbs referring to time intervals semantically compatible with the predicated property cannot automatically give rise to future readings: some future construals are only licensed by modals.

Given the asymmetry between past and future cases, the analysis proposed so far for the past readings of bare sentences cannot directly carry over to the future readings of bare sentences. Something different must be going on with the future.

Another important observation is that there seems to be no *strict* correlation between the aspectual (Vendlerian) class of verbs and whether their bare forms allow future readings: in each class, there are verbs that require a modal to obtain future readings and also verbs that do not need a modal to obtain future-oriented construals.<sup>51</sup> However, verbs of different classes are not equal as to the possibility of yielding future readings with a bare form. In particular, bare activities and bare accomplishments receive future-oriented construals easily without a modal, while most states and achievements require a modal to obtain future readings.

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<sup>51</sup> I would like to thank Bridget Copley for discussing this issue with me during the “Journées d’études Temtypac 2010” in Paris.

The two major puzzles to solve for future construals are the following:

- i. Why can some bare sentences not yield future construals?
- ii. What are the criteria distinguishing predicates yielding future readings without a modal from those that require a modal?

Section 5.3 deals with the first puzzle and Section 5.4. makes an attempt to solve the second. To answer the second question, we can already exclude the properties of different Vendlerian verb classes as key criteria for “modal vs. non-modal” distinction, since in each verbal class we find verbs that allow future readings without a modal and also verbs that require a modal to yield future construals. We should nevertheless be able to explain why most bare states and bare achievements require a modal to be interpreted in the future, whereas most bare activities and accomplishments can dispense with the modal.

## 5.2 Bare future and tense

This section discusses in more detail the sense in which bare future sentences challenge our initial analysis of the temporal interpretation of bare predicates (cf. Chapter 3), and argues that the question of whether Mandarin has tense or not is closely related to this issue.

Before developing in detail our proposal of a null tense NONFUT in Mandarin in Section 5.3, we present in Section 5.2.1 how future cases challenge the analysis proposed so far, discuss extensively in Section 5.2.2 the *tense / tenselessness* contrast, and review in Section 5.2.3 different treatments of temporal construals in languages with no morphological tense.

### 5.2.1 Integrating future into previous analyses: challenges

Recall the asymmetry observed in the behaviors of time adverbs in bare sentences: past / present time adverbs but not future time adverbs can always fix the temporal reference of bare sentences. In many cases, future construals require a modal.

What challenges our previous analysis of temporal interpretations of bare sentences is the following: if time adverbs (past/present/future) occupy the same syntactic position, how can we account for their different behaviors with no further assumptions?



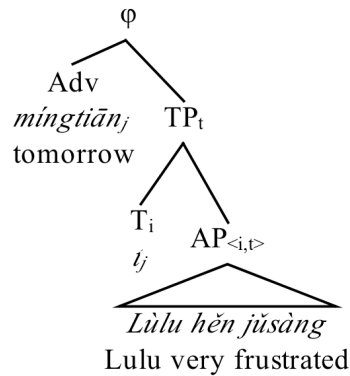
In (23), the time variable under  $T$ ,  $t$ , is bound by the binder index on the adverb available in the sentence, *zuótiān* ‘yesterday’ or *jīntiān* ‘today’. It saturates the time slot of the predicate *hěn jǔsàng* ‘very frustrated’ with the result that what the structure expresses is true if *Lulu*’s frustration holds for the duration of the interval referred to by the adverb. The truth conditions of (22b) and (22c) are given respectively in (24a) and (24b) below:

- (24) a.  $\llbracket(22b)\rrbracket^{s,c} = 1$  iff  $L$  is frustrated throughout the day before the day containing  $t_c$ ; 0 otherwise  
 b.  $\llbracket(22c)\rrbracket^{s,c} = 1$  iff  $L$  is frustrated throughout the day of  $t_c$ ; 0 otherwise

Thus both the past reading of (22b) and the present reading of (22c) are correctly predicted by our initial analysis.<sup>52</sup>

Applying the analysis now to (22a), which only differs from (22b) and (22c) in the time adverb, we get the structure in (25), which is very similar to (23) above: the future time adverb *míngtiān* ‘tomorrow’ replaces the past / present time adverb in (23).

(25)



Accordingly, the truth conditions of (22a) should be:

- (26)  $\llbracket(22a)\rrbracket^{s,c} = 1$  iff  $L$  is frustrated throughout the day after the day containing  $t_c$ ; 0 otherwise

<sup>52</sup> For detailed derivation, see Section 3.4.1.

(26) says that (22a) has a future reading, contrary to the fact that it is ill-formed.

Our initial analysis of the temporal interpretation of bare sentences, as presented in Chapter 3, fails to account for the ill-formedness of sentences with stative BPs modified by a future time adverb like (22a). Moreover, it also incorrectly predicts future construals for ungrammatical sentences with eventive BPs like (27a).

- (27) a. \**Guò-xiē-nián*      Zhōngguó      duì      hěn-shǎo  
           pass- CL.PL-year      China            team      very-few  
           shū-qíú.  
           lose-ball

Intended: ‘The Chinese team will rarely lose in a few years.’

- b. *Qián-xiē-nián*      Zhōngguó      duì      hěn-shǎo  
       before-CL.PL-year      China            team      very-few  
       shū-qíú.  
       lose-ball

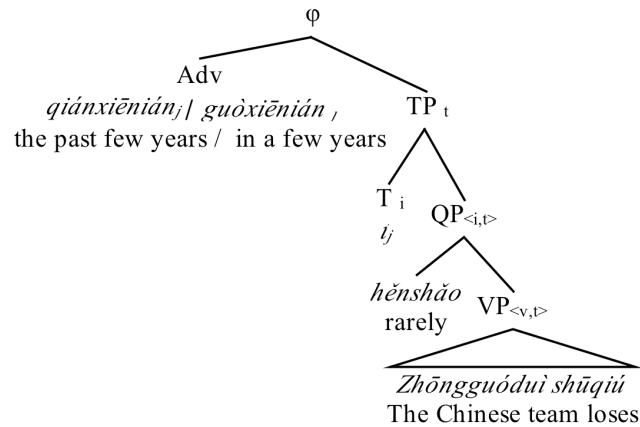
‘The Chinese team rarely lost over the last few years.’

- c. *Zhè-xiē-nián*      Zhōngguó      duì      hěn-shǎo  
       this-CL.PL-year      China            team      very-few  
       shū-qíú.  
       lose-ball

‘The Chinese team rarely loses these years.’

On our previous analysis, (27a) and (27b) should in principle have similar structures, as shown in (28) below, since they only differ in the time adverbs modifying the sentence. As a result, we would expect the truth conditions in (29a) for (27a), according to which (27a) allows a future reading, contrary to the fact that it is ill-formed.

(28)



- (29) a.  $\llbracket(27a)\rrbracket^{g,c} = 1$  iff there are few events of the Chinese team losing games within the interval constituted of the few years following  $t_c$ ;  
 0 otherwise
- b.  $\llbracket(27b)\rrbracket^{g,c} = 1$  iff there are few events of the Chinese team losing games within the interval constituted of the few years previous to  $t_c$ ;  
 0 otherwise

The above discussion shows that our analysis as presented in Chapter 3 cannot accommodate future cases. Some modification must be made to capture the temporal interpretations of these sentences. In particular, it should explain why some bare sentences with future adverbs are ill-formed.

The problem with our previous analysis, illustrated in (23) and (28), is that it imposes no restriction on the values assigned to the time variable  $t$  under T. However, future intervals are clearly excluded from the possible values of  $t$ , as shown by cases like (22) and (27). Apparently,  $t$  can only take as its value intervals preceding or overlapping the UT, not intervals following the UT. In other words, there are constraints on assigning values to the time variable in sentences with BPs: the RT of a sentence with no overt aspect should either precede or overlap the UT.

The constraint on the possible values for RTs in Mandarin is very similar to the constraint imposed by semantic tenses in overtly tensed languages like English and French: PAST tense requires the RT to precede the UT and PRESENT requires the RT to include the UT. The past tense in (30), for instance, validates the past time adverb *yesterday*, but rules out future time adverbs like *tomorrow*, because only intervals preceding the UT are in the domain of PAST, as shown in (31).

- (30) a. Mary was happy yesterday / \*tomorrow.  
 b. [ $\varphi$  [yesterday/\*tomorrow PAST] [<sub>IP</sub> Mary happy]]

$$(31) \llbracket \text{PAST} \rrbracket^{\text{g.c}} = \lambda t: t < t_c. t$$

Although Mandarin has no overt tense, it must have a semantic tense playing a similar role as the past tense in English. Section 5.3 investigates the semantic value of the covert tense in Mandarin. Before that, Section 5.2.2 presents different views of “tense” and “tenselessness” in the literature, which is the source of debates on whether morphologically tenseless languages could have covert tense, and Section 5.2.3 gives a brief overview of “tensed” and “tenseless” analyses for Mandarin.

### 5.2.2 Tensed or tenseless

In Chapter 3, we argued for a syntactic projection in Mandarin sentences introducing a time that serves as reference time in the temporal anchoring of the eventuality described by the predicate (cf. Section 3.4.3). In view of this, “TP” in our previous analysis stands for *Time Phrase* rather than *Tense Phrase*. Whether Mandarin has tense or not is another question that we deal with in the current section and the section that follows. By tense, we refer to an element whose presence serves to introduce a relation to the UT. This could be because its semantic value encodes on its own a relation to the UT – in which case it is not only a *syntactic tense* but also a *semantic tense*. But in principle it could also be because the element in some way signals the fact that a relation to the UT becomes relevant at a different stage of the compositional semantics. In that case, it would merely be a *syntactic tense* without being a *semantic tense*.

The assumption of a T projection for *time* (if not *tense*) is motivated by the possibility of temporally interpreting Mandarin sentences. The fact that native speakers of a language are capable of temporally interpreting a sentence without overt tense morphemes suggests that something must be responsible for the temporal location of the eventuality conveyed by the sentence. It is reasonable to assume that this element, which is semantically present, is also projected in the syntax; and in our system, it is generated under TP. We are convinced that temporality is universal, and a TP projection should be present in all languages.

Whether Mandarin has “tense” or not is a very controversial issue that divides scholars. The debate is at least partly due to the ambiguity that the term “tense” may evoke. Tense can either refer to *i*) a grammaticalized morpheme indicating the temporal location of an eventuality with respect to the UT, such as the past tense morpheme *-ed* in English and the present tense *-nun* in Korean, known as *morphological tense*; or to *ii*) the kind of covert element posited by some researchers, which semantically relates the RT of an eventuality to the UT, known as *semantic tense*.

If the first meaning of “tense” is well accepted as a traditional definition, the second one is rejected by many researchers in their treatment of languages with no overt tense morpheme, such as Mandarin. The question is partly related to the disagreement on whether semantic tense should be obligatorily spelled out, that is, certain authors do not admit covert grammatical categories, in particular, tenses.

We believe that languages can have morphologically null tense. That is, tense is present in the syntax but receives no dedicated phonological realization. Even in languages with overt tenses, a covert tense could coexist with the overt one. Many tensed languages such as English have a spelled-out past tense but use an unmarked form for the present.<sup>53</sup> Therefore, it is reasonable to believe that tense can be

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<sup>53</sup> There are also analyses supporting a semantically “vacuous” present tense in English: the morphological present tense in English does not give rise to a semantic present (cf. Sauerland 2002). See also Thomas (2014) for counterarguments.

morphologically null cross-linguistically. In view of this, languages with no overt tense can also be endowed with covert tense.

If we are on the right track in assuming that morphologically “tenseless” languages may have covert tense, two unavoidable questions then are i) what are criteria for judging whether a language has covert tense or not, and ii) how to identify the semantics of the covert tense.

Note that by definition the fundamental role of “tense” (whether it is phonologically realized or not) in “tensed” languages is to restrict the range of the RT of an eventuality to a partition of the time line. Accordingly, past tense requires the RT to precede the UT; present tense requires the RT to overlap the UT; and finally future tense requires the RT to follow the UT (if we assume a three-way distinction of tenses).

From this point of view, to tell whether a language has “tense” or not, is to find out whether it possesses an element restricting the temporal location of eventualities reported by an utterance. Since in “tenseless” languages, this element (if it exists) is not spelled out, the only way of identifying it is to figure out whether a given utterance bears any other restriction on temporal interpretation besides the restriction imposed by overt morphemes like aspect and other particles. That’s the reason why bare sentences (that is, sentences with no overt aspect) in their minimal form are interesting to study, since there are minimal factors that might interfere with the temporal interpretation.

To illustrate, imagine a language *L* with no overt tense. Suppose that bare sentences (with no aspectual marking or any other overt element that might influence the temporal reading) in *L* receive temporally free readings, that is, they can be interpreted as past, present, or future eventualities. Then we can conclude that there is no restriction on the temporal anchoring, thus no covert tense in *L*.

In contrast, if in another “tenseless” language *L'*, bare sentences cannot receive temporally free readings and there is a certain regularity in the temporal construal of these sentences, this might suggest the existence of a covert tense in language *L'*. On this view, the restriction on the temporal location of a given eventuality reflects directly the semantics of the covert tense. For instance, if bare sentences in *L'* only allow past readings, then it follows that *L'* has a

covert past tense; similarly, if they only allow present readings, it follows that  $L'$  has a covert present tense.

Note that all the diagnostics we just discussed are not strict criteria, since natural languages are much more complicated and less uniform than the “perfect” languages  $L$  and  $L'$ . Even in tensed languages, morphological tense can be semantically vacuous. A past tensed clause does not necessarily describe an eventuality temporally preceding the UT, and present tensed sentences are not always interpreted as on-going situations.<sup>54</sup> As for “tenseless” languages like Mandarin, we believe that the general patterns observed in the data will lead us to enlightening generalizations, although it is far from the imagined “perfect” pattern discussed above.

Bearing these in mind, we will review some proposals made in the literature concerning *tense* in morphologically tenseless languages before getting into data discussion and our proposal, a tensed treatment of Mandarin.

### 5.2.3 Analyses for “tenseless” languages: previous accounts

Whether languages that lack morphological tense have syntactic and semantic tense is a hotly debated issue in the literature. This section presents some previous *tensed* and *tenseless* accounts for Mandarin (Section 5.2.3.1) and other languages with no morphological tense (Section 5.2.3.2), in order to clarify the exact meaning of “tense in these proposals (Section 5.2.3.3).

#### 5.2.3.1 Previous accounts for Mandarin

As we have shown in the introduction of this thesis, Mandarin is traditionally considered as a morphologically tenseless language, since it lacks overt morphemes identified as tense markers relating the RT of an eventuality described by a sentence to the UT. The issue of whether Mandarin has syntactic and semantic tense divides researchers. We see below some *tensed* and *tenseless* proposals for

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<sup>54</sup> The reader is invited to refer to Abusch (1988, 1994, 1997) and Ogihara (1996) for discussion of the well-studied Sequence Of Tense (SOT) phenomena and to Sauerland (2002) and Thomas (2014) for discussion about the vacuity (or not) of the present tense.

Mandarin, and we provide evidence for a different treatment and explain how it differs from these previous analyses in Section 5.3.

Huang (1984:556) assumes an empty *Infl* node in finite clauses in Mandarin. Li (1990) also argues for a finite / nonfinite distinction in Mandarin. In particular, she follows Tsang (1981) and analyses *huì* and *yào* as future tense markers that can occur in finite but not in non-finite clauses. Simpson & Wu (2002:197) claim that in the cleft construction *shì-de* in Mandarin, *de* is projected under  $T^{\circ}$  as a past tense morpheme.

The above “tensed” proposals focus on the finite / nonfinite distinction and whether there is an overt tense morpheme. Sybesma (2007) has a different view of tense in Mandarin. He points out some similarities between Mandarin and Dutch in the temporal interpretations of sentences with stative BPs like (32) and (33): a past time adverb is required to form a felicitous past-tensed sentence in Dutch, as shown by the contrast between (32a) and (32b). Similarly in Mandarin, to license a past reading for bare sentences with a stative predicate *zhù zài Lùtèdān* ‘live in Rotterdam’, a past time adverb is required ((33a) vs. (33b)).

- (32) a. #Ik woonde in Rotterdam.  
 1SG live.PAST in Rotterdam  
 ‘I lived in Rotterdam.’ (very odd/infelicitous in isolation)
- b. Ik woonde in 1989 in Rotterdam.  
 1SG live.PAST in 1989 in Rotterdam  
 ‘I lived in Rotterdam in 1989.’
- (33) a. Wǒ zhù zài Lùtèdān.  
 1SG live in Rotterdam  
 ‘I live in Rotterdam.’  
 # ‘I lived in Rotterdam.’
- b. Wǒ 1989 nián zhù zài Lùtèdān.  
 1SG 1989 year live in Rotterdam  
 ‘I lived in Rotterdam in 1989.’

Sybesma (2007:582)

Since the overt past tense in Dutch seems unable to shift by itself the temporal reference of the predicate ((32a)), Sybesma concludes that

the Dutch past tense is an *agreement morpheme* that requires a past time adverb as input. More generally, T agrees with the temporal adverb in a process that he calls *Tense agreement* (Sybesma 2007: 583). Given the similar pattern observed in the Dutch examples in (32) and the Mandarin examples in (33), he claims that Mandarin also has a past tense, which is a covert agreement morpheme.

The tense that Sybesma posits is merely a syntactic tense and not a semantic tense. If we assume by contrast that Mandarin has semantic tense, then the data seem to suggest that the semantic tense has a non-future meaning. Firstly, (33a) does not allow past readings when uttered out of the blue, probably because sentences with stative BPs uttered out of the blue takes the most salient time, the UT, to be the RT, yielding a present reading. The covert tense should be semantically compatible with this RT. In other words, this tense should at least allow for times including the UT: a “present” tense, a “non-future” tense or a “non-past” tense are all plausible candidates, but not a “past” tense. (33b) has a past time adverb and yields a past reading. This indicates that the covert tense in it should select at least past time intervals. Therefore, both “past” and “non-future” tenses are possible candidates, and “present” and “non-past” are excluded. From this point of view, only “non-future” is compatible with these two cases. If there is only one semantic tense in Mandarin, then the tense should be “non-future”. Even if we assume that Mandarin has two covert tenses, past and present, (33a) should contain a present tense, but not a past tense. This treatment (of splitting present and past) for Mandarin has its limits that we discuss later.

Klein (1994) and Klein et al. (2000) give an alternative view of this issue. They argue that Mandarin lacks inflectional morphology to express tense, that is, to restrict the location of the topic time with respect to the UT, and this information comes from adverbials or the context. To quote:

*“Note that TT(topic time) itself is not localised in temporal order by le, because aspectual particles do not express tense. Thus, if TT is to be further specified in relation to TU(time of utterance), this*

*information must come from adverbials or from the general context.*"<sup>55</sup>

Klein et al. (2000:759)

Lin (2006, 2010) also defends a tenseless treatment of Mandarin. He claims that Mandarin has no TP projection at all, and the temporal interpretation is derived from lexical/grammatical aspect or pragmatic factors (see Section 3.5 for critical discussion).

For Smith & Erbaugh (2005), Mandarin has neither syntactic tense, nor a finite/nonfinite distinction. The temporal interpretation is largely based on aspect.

Klein (1994), Klein, Li, & Hendriks (2000), Lin (2006, 2010) and Smith & Erbaugh (2005) share a “tenseless” view of Mandarin: Mandarin has neither morphological nor syntactic tense.

### 5.2.3.2 *Tensed vs. tenseless analyses in other languages*

Whether languages with no tense morphology have covert tense is also hotly debated in other morphologically “tenseless” languages such as St’át’imcets (also known as *Lillooet Salish*), Gitxsan, West Greenlandic and Paraguayan Guaraní.

Matthewson (2006) argues for a tensed treatment for St’át’imcets, a Salish language. Jóhannsdóttir & Matthewson (2007) provide similar arguments as those in Matthewson (2006) for a null tense in Gitxsan, a Tsimshianic language.

In particular, Matthewson shows that a sentence with no morphological tense in St’át’imcets can receive either a present or a past reading, but never a future reading. Typically, a sentence with a bare activity like *sáy’séz’* ‘play’ in (34) allows either an on-going present or a past reading.

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<sup>55</sup> The reader is invited to refer to Chapter 2 for details of Klein’s theory about tense and aspect.

- (34) *sáy'sez'-lhkan.*  
 play-1SG.SUBJ  
 'I played.'  
 'I am playing.'

∅ adverb → Past or Present

Modified by an overt past time adverb *tsilkstásq'et* 'Friday', the sentence with a bare activity in (35) only yields a past reading.

- (35) *sáy'sez'-lhkan*            *i-tsilkstásq'et-as.*  
 play-DIR-1SG.SUBJ        COMP.PAST-Friday-3CONJ  
 'I played on Friday.'

+ Past adverb → Past reading

However, a future time adverb, such as *nacw* 'tomorrow' in (36a), fails to fix the temporal reference of a bare predicate into the future. A modal *kelh* is required, as shown in (36a).

- (36) a. \**sáy'sez'-lhkan*        *nacw.*  
           play-1SG.SUBJ        one.day.away  
           Intended: 'I will play tomorrow.'

+ Future adverb → \*Future reading

- b. *sáy'sez'-lhkan*        *kelh.*  
       play-1SG.SUBJ        MOD  
       'I will play.'

+ Modal → Future reading

To explain these facts, Matthewson claims that there is a phonological null tense restricting the RT of all predicates to non-future times. This proposal explains why the bare predicate *sáy'sez'* 'play' in (34) can be construed as having either past or present time reference, and also a past time adverb but not a future time adverb can fix by itself the temporal reference of a bare predicate in (36).

The reader may notice that the generalization described about St'át'imcets concerning the future is very similar to that in Mandarin ((22) and (27)): in both languages, future readings require the presence of a modal. Future time adverbs cannot alone shift the

temporal reference of sentences with bare predicates into the future.<sup>56</sup> In other words, there are restrictions on the temporal location of an eventuality described by a bare predicate. We have pointed out earlier that these restrictions recall the restrictions imposed by tenses in overtly tensed languages like English and French. Matthewson (2006) describes the null tense in St’át’imcets as an “underspecified” tense with respect to past tense: the null tense restricts the RTs to non-future times, whereas past tense in English / French restricts the RTs to past times.

Scholars like Shaer (2003), Bittner (2005) and Tonhauser (2011) defend a “tenseless” treatment for the morphologically “tenseless” languages they study.

According to Shaer (2003) and Bittner (2005), West Greenlandic is syntactically tenseless, because its inflectional system contains no tense node “dedicated to the encoding of relations between speech time and reference time” (Shaer 2003:139).

Tonhauser (2011) argues against the tensed analysis proposed by Matthewson (2006), and claims that the “temporal reference is not constrained by tense in Paraguayan Guaraní, but only by context and temporal adverbials” (Tonhauser 2011:257).

### 5.2.3.3 *Analyses recapitulation*

Table 8 recapitulates the positions of the authors cited in the last two subsections concerning whether the language in question has or does not have a morphological, syntactic or semantic tense.

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<sup>56</sup> The reader may notice that the aspectual interpretations of sentences with BPs crucially differ in St’át’imcets and Mandarin: sentences with eventive BPs like (34) allow for episodic readings in St’át’imcets, whereas they only allow generic readings in Mandarin. This contrast raises the intriguing question of how to explain crosslinguistic variation in the interpretation of BPs. This is an important question that we leave open for future research.

Language	Author	Morpho tense	Sem tense	Syn tense
West Greenlandic	Shaer (2003) Bittner (2005)	-	-	-
Paraguayan Guaraní	Tonhauser (2011)			
Mandarin	Klein (1994), Klein, Li, & Hendriks (2000) Lin (2006, 2010) Smith & Erbaugh (2005)	-	-	-
	Sybesma (2007) Huang (1984)	-	-	+
	This dissertation	+	+	+
	Tsang (1981), Li (1990) Simpson & Wu (2002)	+	+	+
St'át'imcets	Matthewson (2006)	+	+	+
Gitksan	Jóhannsdóttir & Matthewson (2007)			
English		+	+	+

Table 8 Tensed and tenseless treatments

Focusing on the authors who study Mandarin listed in Table 8: there are very different or even opposite views on whether Mandarin has or not morphological, syntactic or semantic tense.

Precisely, there are four different positions.

I. *Tenseless analysis*: no tense at all

Firstly, we can identify a tenseless view of languages with no tense morpheme. Just like Shaer (2003), Bittner (2005) and Tonhauser (2011) who adopt a *tenseless* treatment for West Greenlandic and Paraguayan Guaraní, Klein (1994), Klein, Li, & Hendriks (2000), Lin (2006, 2010) and Smith & Erbaugh (2005) also defend a *tenseless* analysis of Mandarin: according to these researchers, these languages have neither morphological nor syntactic/semantic tense, and the temporal interpretation comes from other elements, such as lexical aspect, time adverbs, context, etc.

## II. *Morphologically tensed treatments: overt tense morphemes*

Tsang (1981), Li (1990) and Simpson & Wu (2002) have a *tensed* view of Mandarin. All of them argue for the existence of an overt tense morpheme: the future tense marker *huì* and *yào* for Tsang and Li, and the past tense marker *de* in *shì-de* construction for Simpson & Wu. In view of this, Mandarin is an English type language concerning tense, that is, Mandarin has morphological tense, thus it has logically syntactic and semantic tense.

## II. *Morphologically tensed treatments: covert tense morphemes*

This is the view defended in this thesis, along the lines of Matthewson (2006) and Jóhannsdóttir & Matthewson (2007): Mandarin has no overt tense morpheme, but a zero non-future tense. It is projected in the syntax and semantically orders the time reference of bare sentences to non-future time.

## III. *Syntactically tensed treatments:*

According to Huang (1984) and Sybesma (2007), Mandarin has no overt tense morpheme, but a syntactic tense projection.

## IV. *Semantically tensed treatments: no morphological tense, but syntactic and semantic tense*

### **5.3 Proposal: NONFUT in Mandarin**

This section presents our analysis of tense in Mandarin, which is largely inspired by Matthewson (2006). We claim that there is a covert tense NONFUT in Mandarin, restricting the RT of all bare root clauses to non-future times. This proposal correctly captures the past and present readings of the sentences with BPs and the illformedness of sentences with BPs modified by future time adverbs, thus solving the puzzle challenging our earlier analysis that we ran into in Section 5.1. We further provide evidence for the NONFUT tense and argue against the other tensed proposals discussed in Section 5.2.3.1.

#### **5.3.1 Covert tense NONFUT**

We claim that Mandarin has a covert tense, NONFUT, which limits the time span for anchoring an eventuality denoted by a bare predicate to intervals that precede or include the UT (Matthewson 2006). In

other words, it excludes all intervals that entirely follow the UT. The semantic value of NONFUT is given below.

$$(37) \llbracket \text{NONFUT} \rrbracket^{\text{g,c}} = \lambda t: t < t_c \text{ or } t \supseteq t_c. t$$

NONFUT takes a time and gives the same value, only if this time precedes or includes the contextually determined time  $t_c$ .

### 5.3.1.1 NONFUT and stative BPs

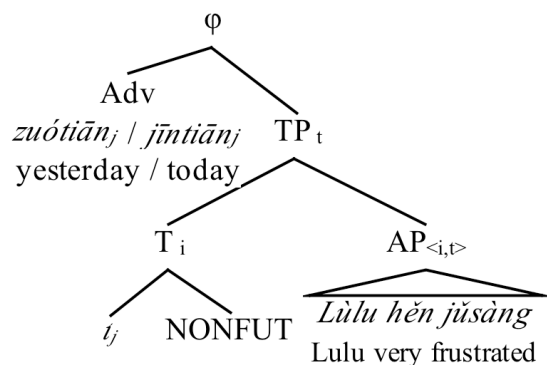
Now that we have argued for a T projection NONFUT, the structures of sentences with BPs in (22) repeated as (38) will be different. (38a) and (38b) have very similar structures, as illustrated in (39), which differs from (23), the earlier version of the structure, in the part under the T: the time variable  $t_j$  directly occupies the T head in (23), while it combines first with the null tense NONFUT in (39).<sup>57</sup>

- (38) a. *Zuótiān*      Lùlu   hěn      jǔsàng.  
 yesterday      Lulu   very      frustrated  
 ‘Yesterday, Lulu was very frustrated.’
- b. *Jīntiān*      Lùlu   hěn      jǔsàng.  
 today      Lulu   very      frustrated  
 ‘Today, Lulu is very frustrated.’
- c. \**Míngtiān*      Lùlu   hěn      jǔsàng.  
 tomorrow      Lulu   very      frustrated

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<sup>57</sup> The representation in (39) is a way of fleshing out the earlier way of analyzing pronoms. Note that the T head is still referential.

(39)



To show more precisely the distribution of NONFUT, we compute the semantic value of (38a) based on the structure in (39). The relevant lexical entries are given in (40) and the derivation in (41).

(40) a.  $\llbracket \text{zuótiān} \rrbracket^{\text{g}, \text{c}} = \text{the day before the day that contains } t_c$

b.  $\llbracket t_j \rrbracket^{\text{g}, \text{c}} = g(j)$

c.  $\llbracket \text{NONFUT} \rrbracket^{\text{g}, \text{c}} = \lambda t: t < t_c \text{ or } t \supseteq t_c. t$

d.  $\llbracket \text{Lùlù} \rrbracket^{\text{g}, \text{c}} = L$

e.  $\llbracket \text{hěn jǔsàng} \rrbracket^{\text{g}, \text{c}} = \lambda x. \lambda t. x \text{ is frustrated throughout } t$

(41) a.  $\llbracket \text{AP} \rrbracket^{\text{g}, \text{c}} = \lambda t. L \text{ is frustrated throughout } t$

b.  $\llbracket T \rrbracket^{\text{g}, \text{c}}$  is defined only if  $g(j) < t_c$  or  $g(j) \supseteq t_c$ .

Where defined,  $\llbracket T \rrbracket^{\text{g}, \text{c}} = g(j)$ .

c.  $\llbracket \text{TP} \rrbracket^{\text{g}, \text{c}}$  is defined only if  $g(j) < t_c$  or  $g(j) \supseteq t_c$ .

Where defined,  $\llbracket \text{TP} \rrbracket^{\text{g}, \text{c}} = 1$  iff  $L$  is frustrated throughout  $g(j)$ ; 0 otherwise.

d.  $\llbracket (38a) \rrbracket^{\text{g}, \text{c}} = 1$  iff  $L$  is frustrated throughout the day before the day containing  $t_c$ ; 0 otherwise  
(since the day before the day containing  $t_c < t_c$ )

(41b) says that the combination of NONFUT with the time interval “the day before the day containing  $t_c$ ” gives rise to the same interval,

since the latter clearly precedes the UT, and as such satisfies the condition imposed by NONFUT. Therefore, the sentence receives a past reading, as shown in (41c).

In a similar way, given the lexical entry of *jīntiān* ‘today’ in (42), the derivation of the semantic value of (38b) will be like (43):

(42)  $\llbracket jīntiān_j \rrbracket^{g,c} = \text{the day containing } t_c$

(43) a.  $\llbracket AP \rrbracket^{g,c} = \lambda t. L \text{ is frustrated throughout } t$

b.  $\llbracket T \rrbracket^{g,c} =$  is defined only if  $g(j) < t_c$  or  $g(j) \supseteq t_c$ .

Where defined,  $\llbracket T \rrbracket^{g,c} = g(j)$ .

c.  $\llbracket TP \rrbracket^{g,c}$  is defined only if  $g(j) < t_c$  or  $g(j) \supseteq t_c$ .

Where defined,  $\llbracket TP \rrbracket^{g,c} = 1$  iff  $L$  is frustrated throughout  $g(j)$ ; 0 otherwise.

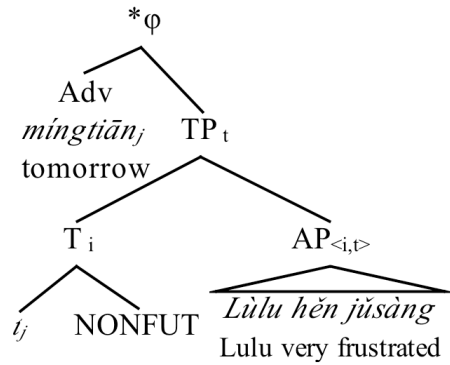
d.  $\llbracket (38b) \rrbracket^{g,c} = 1$  iff  $L$  is frustrated throughout the day containing  $t_c$ ; 0 otherwise

(since the day containing  $t_c \supseteq t_c$ )

The semantic value of the T node is, as shown in (43b), “the day containing  $t_c$ ”, since this interval satisfies the condition imposed by NONFUT. The present stative reading of (38b) is correctly derived in (43c).

With the same assumptions, let us now consider the syntactic structure of (38c), illustrated in (44) below:

(44)



The lexical entry of *míngtiān* ‘tomorrow’ is given in (45), and the derivation of the semantic value of (38c) in (46).

(45)  $\llbracket \text{míngtiān}_j \rrbracket^{\text{g},c} = \text{the day following the day that contains } t_c$

(46) a.  $\llbracket t_j \rrbracket^{\text{g},c} = g(j)$

b.  $\llbracket T \rrbracket^{\text{g},c}$  is defined only if  $g(j) < t_c$  or  $g(j) \supseteq t_c$ .

Where defined,  $\llbracket T \rrbracket^{\text{g},c} = g(j)$ .

c.  $\llbracket TP \rrbracket^{\text{g},c}$  is defined only if  $g(j) < t_c$  or  $g(j) \supseteq t_c$ .

Where defined,  $\llbracket TP \rrbracket^{\text{g},c} = 1$  iff  $L$  is frustrated throughout  $g(j)$ ; 0 otherwise.

d.  $\llbracket (38c) \rrbracket^{\text{g},c}$  is defined only if

$\llbracket \text{tomorrow} \rrbracket^{\text{g},c} < t_c$  or  $\llbracket \text{tomorrow} \rrbracket^{\text{g},c} \supseteq t_c$

( where defined,  $\llbracket (38c) \rrbracket^{\text{g},c} = 1$  iff  $L$  is frustrated throughout  $\llbracket \text{tomorrow} \rrbracket^{\text{g},c}$ ; 0 otherwise. )

e.  $\llbracket (38c) \rrbracket^{\text{g},c}$  is undefined since the condition in (d) is not met.

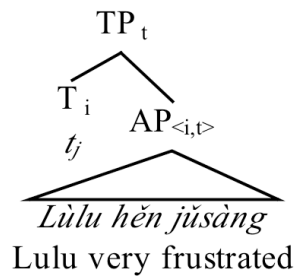
In (38c), the RT is overtly spelled out. The adverb *míngtiān* ‘tomorrow’ refers to “the day after the day containing  $t_c$ ”, a time interval entirely following the UT. However, since NONFUT has in its domain only intervals preceding or including the UT, it cannot apply to “the day following the day containing  $t_c$ ”.  $\llbracket T \rrbracket^{\text{g},c}$  is undefined, giving rise to an uninterpretable sentence.

Another question arises whether NONFUT captures the temporal construals of sentences with stative BPs that do not contain time adverbs at all. Reconsider (47):

- (47) Lùlu hěn jǔsàng.  
 Lulu very frustrated  
 ‘Lulu is very frustrated.’

When uttered out of the blue, (47) receives a present reading. This is so because the most salient time available for a given utterance without adverbs is the UT, and since sentences are evaluated with respect to assignments with salient objects in their range,  $g(j)$  generally coincides with UT. The early version of our analysis is illustrated in (48) below:

(48)

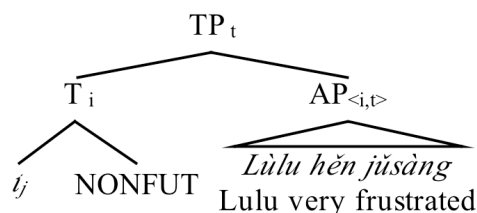


(49)  $\llbracket (47) \rrbracket^{g,c} = 1$  iff  $L$  is frustrated throughout  $g(j)$ ; 0 otherwise

If  $g(j) = \text{UT}$ , then the sentence is true iff *Lulu*'s frustration holds for the duration of the UT, explaining why (47) has a present interpretation.

Integrating now NONFUT to the structure above, we get the following:

(50)



NONFUT will check the location of the RT,  $g(j)$ . That is,  $g(j)$  should not entirely follow the UT. In (50), with the absence of overt time adverbs,  $g(j)$  can coincide with the UT. Consequently, the truth conditions of (47) remain unchanged, that is, (47) is true iff *Lulu* is frustrated at the UT. The present reading is correctly predicted.

Note that there are sentences like (51) below, which contain no time adverbs, and they are interpreted in the past.

(51) Zhūgěliàng      hěn      jīngmíng.  
Zhugeliang      very      shrewd  
'Zhugeliang was very shrewd.'

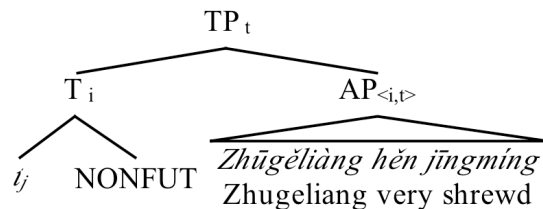
In principle, (51) should have a similar structure as (47). If we follow the same reasoning, the RT should be the UT in the absence of overt time adverbs, and accordingly (51) yields a present reading. However, this is not correct. (51) only has a past reading.

Is (51) a counterexample to our analysis presented above? How can we account for the past reading of (51)?

In fact, the person mentioned in (51), *Zhūgěliàng*, was a great military strategist during the Three Kingdoms period (220-280 AC) in the history of China. The reason why (51) yields a past reading, but not a present reading, is that the person that the predication is about is a dead person. Suppose that (51) is uttered in 2014, and the only reading we get for (51) is the past reading. This example seems to challenge our analysis, which derives present readings for bare sentences with no overt time adverbs. However, a closer examination will lead us to a different conclusion.

If the past tense is used in the translation in (51), that's because we know that the utterance is given in a more or less "actual" time, thousands of years later than the lifetime of *Zhūgěliàng*. If (51) is uttered when *Zhūgěliàng* is alive, it must receive a present reading. Strictly speaking, (51) can either receive a past or a present reading, depending on the temporal relation between the lifetime of *Zhūgěliàng* and the moment of the utterance, and that is exactly what the null tense NONFUT predicts. Let us illustrate the structure of (51) in (52); the truth condition is given in (53).

(52)



(53)  $\llbracket(51)\rrbracket^{g,c}$  is defined only if  $g(j) < t_c$  or  $g(j) \supset t_c$ ;  
 where defined,  $\llbracket(51)\rrbracket^{g,c} = 1$  iff  $Z$  is frustrated  
 throughout  $g(j)$ ; 0 otherwise

According to (53), (51) can either be interpreted as a past state or a present state, which is correct, following our previous discussion. The only reason for which we translate it as past tensed sentence in English is that we suppose that the UT is later than the lifetime of the person. The present reading is nevertheless available. The two sentences with no time adverbs have different temporal construals: the past tense for (51) and the present tense for (47). This is due to pragmatic factors rather than a difference in their truth conditions. Both present and past readings are available for (47) and (51). When interpreting (47), we pick up the UT as RT with the knowledge that we are talking about a living person, while we have to take into consideration the lifetime (or a part of the lifetime) of *Zhūgěliàng* in the interpretation of (51).

To summarize, the assumption of a covert tense NONFUT correctly predicts the temporal construals of sentences with stative BPs and their interaction with time adverbs.

### 5.3.1.2 *NONFUT and eventive BPs*

Let us now reconsider sentences with eventive BPs to see whether their temporal construals can also be captured by NONFUT. The sentences in (27) above are repeated as (54) below:

(54) a. *Qián-xiē-nián*      Zhōngguó      duì      hěn-shǎo  
 before-CL.PL-year      China      team      very-few  
 shū-qíú.  
 lose-ball

‘The Chinese team rarely lost over the last few years.’

b. *Zhè-xiē-nián*      Zhōngguó      duì      hěn-shǎo  
 this-CL.PL-year      China      team      very-few  
 shū-qíú.  
 lose-ball

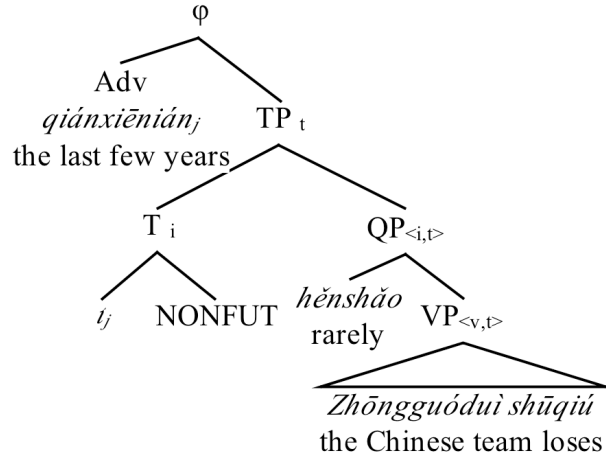
‘The Chinese team rarely loses these years.’

c. \**Guò-xiē-nián*      Zhōngguó      duì      hěn-shǎo  
 pass- CL.PL-year      China      team      very-few  
 shū-qíú.  
 lose-ball

‘The Chinese team will rarely lose in a few years.’

Under the assumption of a NONFUT tense, (54a) will have the structure in (55):

(55)



The lexical entries of items in (55) are given in (56), and the detailed calculation is illustrated in (57).

(56)

- a.  $\llbracket \text{qián-xiē-nián} \rrbracket^{\text{g,c}} =$  the interval constituted of the few years previous to  $t_c$
- b.  $\llbracket t_j \rrbracket^{\text{g,c}} = g(j)$
- c.  $\llbracket \text{NONFUT} \rrbracket^{\text{g,c}} = \lambda t: t < t_c \text{ or } t \supseteq t_c. t$
- d.  $\llbracket \text{hěنشǎo} \rrbracket^{\text{g,c}} = \lambda P. \lambda t: t$  is relatively long.  $t$  contains few P-events
- e.  $\llbracket \text{Zhōngguó duì} \rrbracket^{\text{g,c}} = CT$
- f.  $\llbracket \text{shū} \rrbracket^{\text{g,c}} = \lambda x. \lambda e. \text{LOSE}(e, x)$

(57)

- a.  $\llbracket \text{VP} \rrbracket^{\text{g,c}} = \lambda e. \text{LOSE}(e, CT)$
- b.  $\llbracket \text{QP} \rrbracket^{\text{g,c}} = \lambda t: t$  is long. Few intervals in  $t$  contain an event of  $CT$  losing games.
- c.  $\llbracket T \rrbracket^{\text{g,c}}$  is defined only if  $g(j) < t_c$  or  $g(j) \supseteq t_c$ .  
Where defined,  $\llbracket T \rrbracket^{\text{g,c}} = g(j)$ .
- d.  $\llbracket \text{TP} \rrbracket^{\text{g,c}}$  is defined only if  $g(j) < t_c$  or  $g(j) \supseteq t_c$ .



$$b. \llbracket t_j \rrbracket^{g,c} = g(j)$$

(60)

$$a. \llbracket T \rrbracket^{g,c} \text{ is defined only if } g(j) < t_c \text{ or } g(j) \supseteq t_c .$$

Where defined,  $\llbracket T \rrbracket^{g,c} = g(j)$ .

$$b. \llbracket TP \rrbracket^{g,c} \text{ is defined only if } g(j) < t_c \text{ or } g(j) \supseteq t_c$$

Where defined,  $\llbracket TP \rrbracket^{g,c} = 1$  iff there are few events of the Chinese team losing games within the interval constituted of the few years following  $t_c$ ;  
0 otherwise

$$c. \llbracket (54c) \rrbracket^{g,c} \text{ is undefined.}$$

(since  $\llbracket \text{guòxiēnián} \rrbracket^{g,c} > t_c$ )

The covert tense NONFUT captures the temporal interpretation of sentences with eventive BPs. In particular, it explains why past / present time adverbs but not future time adverbs can combine with eventive BPs, yielding past / future construals.

To sum up, I propose a covert NONFUT tense in Mandarin. We showed that NONFUT explains the interaction of time adverbs with bare sentences. Past and present time adverbs are compatible with bare sentences, because they denote time intervals preceding or overlapping the UT, that is, intervals that are in the domain of NONFUT. Accordingly, the eventualities described by bare sentences are temporally anchored in the past or in the present. In contrast, future time adverbs fail to temporally anchor by themselves the eventualities denoted by bare sentences, because they denote intervals that entirely follow the UT, which are not in the domain of NONFUT, giving rise to uninterpretable sentences.

### 5.3.2 Arguments for NONFUT tense

#### 5.3.2.1 *The two-way tense split and morphological NONFUT*

According to Comrie (1985), languages differ in whether their tense system has a three-way or two-way distinction. Crucially however, the two-way systems do not all reduce to *past/non-past*. The two-way tense distinction *past/non-past* can be found in Indo-European

languages, such as German and Finnish, where the present tense form is also “frequently used for future time reference” (Comrie 1985:49). The other binary tense system *future/non-future* is attested in languages such as Inuktitut, Rukai and Hua. The present/non-present split is not a possible configuration according to Comrie. He defends a possible universal of tense systems, that is, “in a tense system, the time reference of each tense is a continuity” (Comrie 1985:50).

Swift (2004) shows that the tense system in Inuktitut has a future-nonfuture split where future must be overtly marked, while the bare form either yields past or present readings, as exemplified in (61).

- (61) a. *Anijuq.*  
 ani-juq  
 go.out-PAR.3SG.SUBJ  
 ‘She went out.’
- b. *Pisuttuq.*  
 pisuk-juq  
 walk- PAR.3SG.SUBJ  
 ‘She is walking.’

(Swift 2004:23, glosses adapted)

Haiman (1980) points out that in Hua, a Papuan language of New Guinea, bare verbs are used to describe past or present actions or states, and future eventualities are expressed by overtly marked forms, as shown in (62) and (63).

- (62) a. hu+e  
 ‘I did; I do.’
- b. bau+e  
 ‘I stay here; I am here; I stayed here; I was here.’

(Haiman 1980:136)

- (63) a. hu+gu+e  
 ‘I will do.’
- b. hi+ga+e  
 ‘You all (they all) will do.’

(Haiman 1980:141)

Comrie (1985:49) considers Hua as a language with “a clear and basic tense opposition between future and nonfuture”.

Chen (2008) follows Zeitoun et al. (1996) and Zeitoun & Huang (1997) and argues that Rukai has overt nonfuture (64a) and future (64b) tenses<sup>58</sup>. (66c) shows that sentences must be inflected for tense, otherwise, they are infelicitous.

- (64) a. **Wa**-thingal-aku iniane.  
 NONFUT-know-1SG.NOM 3SG.OBL  
 ‘I know/knew him.’
- b. **Lri**-thingal-aku iniane.  
 FUT-know-1SG.NOM 3SG.OBL  
 ‘I will know him.’
- c. \*Thingal-aku iniane.  
 know-1SG.NOM 3SG.OBL

(Chen 2008:146, glosses adapted)

Chen further argues that nonfuture and future tense do not co-occur in the same clause, because they compete for the same structural position.

The above cross-linguistic data suggest that the binary tense system future/nonfuture does exist in natural language, and the nonfuture tense can either be morphologically realized (cf. *wa*- in the Rukai example (64a)) or not (cf. Hua). Therefore, the hypothesis of a zero nonfuture tense in Mandarin is plausible.

### 5.3.2.2 *NONFUT* vs. *PRES/PAST*

Among the tensed analyses proposed for languages with no overt tense, some argue for more than one covert tense: a past and a present tense, for instance (see Sybesma 2007 and Reis & Matthewson 2007). We show in this section that these proposals are not appropriate at least for Mandarin, and that an under-specified non-future tense better

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<sup>58</sup> The morphological form of the nonfuture tense in Rukai varies according to the voices (active/passive). *wa*-, *ma*-, *ta*- and the zero morpheme are all possible realizations of nonfuture (cf. Chen 2008: 146-147).

fits Mandarin data. The arguments presented below are based on Matthewson (2006).

Some sentences with a bare predicate in Mandarin are used to describe plural eventualities with more than one temporal location (both past and present for example). (65a) below contains only one bare predicate *duì wùlǐ gǎnxìngqù* ‘be interested in physics’ and two experiencers – *Newton* and *Hawking*. It can be truthfully uttered in 2014 to convey that *Newton was* interested in physics (during his lifetime in the 17<sup>th</sup> -18<sup>th</sup> century) and *Hawking is* interested in physics throughout a period including the UT (sometime in the year of 2014). Similarly, (65b) conveys that *Gulong*, who is no longer alive in the year of 2014, *used to* smoke, and *Moyan*, who is alive, *is* a smoker at the UT.<sup>59</sup> The smoking habits of these two persons are true for different time intervals. (65c) conveys that the state of Lulu being frustrated holds during the day of the UT *jīntiān*, and also the day that is two days before the UT *qián-tiān*.

- (65) a. Niúdùn hé Huòjīn dōu duì wùlǐ gǎnxìngqù.  
 Newton and Hawking DOU to physics interest
- b. Gǔlóng hé Mòyán dōu chōuyān.  
 Gulong and Moyan DOU smoke
- c. Qián-tiān hé jīntiān Lùlu dou hěn jüsàng.  
 before-day and today Lulu DOU very frustrated

Each of the sentences in (65) has one predicate, thus one TP by hypothesis. Since these sentences have past and present readings simultaneously, the covert tense should select both past and present intervals as RTs for the eventuality described by the predicate. This possibility is exactly encoded in the lexical entry of NONFUT that we proposed in (37).

Moreover, (65a) and (65b) can be translated neither as past tensed nor present tensed sentences in English without losing temporal information, suggesting that the covert tense in Mandarin is neither a past tense nor a present tense. A non-specified tense NONFUT better

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<sup>59</sup> Gulong (1938-1985) was a Chinese novelist. Moyan (1955- ) is a Chinese novelist, awarded the Nobel Prize in Literature in 2012.

accounts for the temporal interpretation of (65). The above argument for the NONFUT tense is largely based on that of Matthewson (2006: 20-21). However, there is a fundamental difference between Mandarin and St'át'imcets as to the temporal interpretations of bare sentences: Mandarin bare sentences only allow past or present *stative/generic* readings, while St'át'imcets bare sentences allow past or present *episodic* readings. See Chapter 4, Section 4.1.1 for discussion of generic vs. episodic readings.

### 5.3.2.3 Mandarin tense: *vacuous or not?*

Recall the different points of view on whether Mandarin has tense or not (Section 5.2.3.3). Among the “tensed” analyses, we distinguish “morphologically” tensed analyses, “syntactically” tensed analyses and “semantically” tensed analyses.

We reject the morphologically tensed view for Mandarin for the following reasons. Firstly, *huì* and *yào*, analyzed as future tense markers by Tsang (1981) and Li (1990), literally correspond to “can” and “want” in English, so they should more likely be analyzed as modal verbs than a real future tense. Secondly, the cleft construction *shì-de*, which Simpson & Wu (2002) claim to contain a past tense marker *de*, has very limited uses: most of the sentences yielding past time eventualities in Mandarin do not have a cleft construction. One should be able to explain how the past construals are derived in sentences without a *shì-de* construction.

The syntactically tensed analyses admit the absence of an overt tense morpheme in Mandarin, and argue for a syntactic projection for Inflection (Huang 1984) or Tense (Sybesma 2007). We take Sybesma (2007) as an example and show how his approach differs from ours.

The fundamental difference between our analysis and that of Sybesma (2007) concerning tense in Mandarin is that the covert tense NONFUT in our proposal is a *semantic* tense, whereas the past tense proposed by Sybesma is an agreement morpheme under T, which is semantically vacuous. More precisely, NONFUT semantically contributes to constrain the temporal location of the reference time for an eventuality to non-future times. Whereas the null ‘agreement

morpheme' proposed by Sybesma (2007:583) is “quite meaningless”; its presence reflects the presence of a past time adverb.<sup>60</sup> Therefore, it is only a syntactic tense, but not a semantic tense. The temporality of a sentence is related more closely to time adverbs than to the vacuous tense. To quote:

*“we can conclude that the tense morpheme in Dutch is quite meaningless. I would like to claim that it is a mere agreement morpheme. It is enforced by the presence of the past temporal adverbial in 1989 and has no expressive power in and of itself... Let's call the process Tense agreement and assume that T agrees with the temporal adverb, possibly in its specifier.”*

*“Note that, since Mandarin [examples] show exactly the same pattern as Dutch [examples], ... Mandarin has the same Tense agreement; it is just not overt.”*

Sybesma (2007:583)

What challenges Sybesma's point of view is the cases discussed in the previous section, where more than two reference times (one refers to a past time and the other to a present time) co-exist in one utterance (cf. (65)): neither past tense nor present tense is appropriate for the T projection, since neither of them can agree simultaneously with a past and a present time adverb.

We conclude that Mandarin has a syntactic and semantic tense NONFUT, which restricts the RT of bare root clauses to non-future times.

#### **5.4 Bare future and futurates**

The hypothesis of a null tense NONFUT in Mandarin, restricting the RT of bare root clauses to non-future times, explains why future time adverbs cannot license future construals of some bare sentences by

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<sup>60</sup> Note however that in this case adverbs must come with some formal feature that indexes their pastness, and one could think of this feature as a “semantic tense.” This recalls Percus's (2006) conclusion that in sentences like *Only the professor was decorating her office*, *her* is an agreement form that reflects the presence of an unpronounced feature on the DP *the professor* that indexes femaleness.

themselves. However, there remain two puzzles to be solved based on the data examined in Section 5.1:

- i. Why do some sentences require a modal for future construals?
- ii. What are the criteria distinguishing predicates yielding future without modal from those that require a modal?

This section aims to solve the second puzzle, namely, why some sentences with BPs can receive future readings without modals.

#### 5.4.1 Bare future in Mandarin

Some sentences containing a stative BP allow future construals, as shown by the cases in (66) repeated from (9). With a future time adverb, (66a-c) are grammatical sentences describing states in future times without a modal.

- (66) a. *Míngtiān* Lùlu hěn máng.  
tomorrow Lulu very busy  
'Tomorrow, Lulu will be very busy.'
- b. *Xiǎoxīn jīnwǎn zài jiā.*  
Xiaoxin tonight at home  
'Xiaoxin will be at home tonight.'
- c. *Míngnián tāmen zhù zài Běijīng.*  
next.year 3PL live at Beijing  
'Next year, they will live in Beijing.'

There are also sentences with eventive BPs that do not require a modal to license future readings, as shown in (16), repeated here as (67). The sentences in (67) are grammatical and report generic properties that hold in the future.

- (67) a. *Xià-ge-yuè* Xiǎoxīn zǎoshàng hē kāfēi.  
next-CL-month Xiaoxin morning drink coffee  
'Xiaoxin will drink coffee in the morning next week.'
- b. *Mǐqílín jīnhòu měi-nián jiàn*  
Michelin henceforth every-year build  
*liǎng-jiā gōngchǎng.*  
two-CL factory  
'Michelin will henceforth build two factories every year.'

- c. Jīnglǐ      jīnhòu      bā-diǎn      dào.  
 manager      henceforth      eight-o'clock      arrive  
 'The manager will henceforth arrive at eight.'

Moreover, sentences with eventive BPs can also be used to describe *episodic* events in the future. (68)-(70) are repeated from (17)-(19).

- (68) a. Lìsì      míngtiān      dǎ      wǎngqiú.  
 Lisi      tomorrow      play      tennis  
 'Lisi will play tennis tomorrow.'
- b. Gǔlóng      xià-kè      yǐhòu      chōuyān.  
 Gulong      down-class      after      smoke  
 'Gulong will smoke after class.'
- (69) a. Mǐqílin      míngnián      jiàn      liǎng-jiā      gōngchǎng.  
 Michelin      next.year      build      two-CL      factory  
 'Michelin will build two factories next year.'
- b. Mòyán      míngnián      xiě      yì-běn      shū.  
 Moyan      next.year      write      one-CL      book  
 'Moyan will write a book next year.'
- (70) a. Xiǎoxīn      jīnwǎn      dào.  
 Xiaoxin      tonight      arrive  
 'Xiaoxin will arrive tonight.'
- b. Lǐ Níng      míngwǎn      shídiǎn      diǎnrán  
 Li Ning      tomorrow.night      ten-o'clock      light  
 shèngguǒ.  
 cauldron  
 'Li Ning will light the cauldron tomorrow night at ten.'

(68a) says that there will be an event of *Lisi* playing tennis during the day after the UT, and (68b) reports an event of *Gulong* smoking in a future time, *xià-kè yǐhòu* 'after class'. Similarly, (69) and (70) are also used to convey future episodic events: building two factories, writing a book, *Xiaoxin*'s arrival and *Li Ning* lighting the cauldron. In the sentences above, future time adverbs felicitously modify eventive BPs and yield episodic events in the future.

To sum up, there are sentences with BPs that can receive future readings without modals in Mandarin. This observation seems to



- c. Le train part dans dix minutes.  
 D train leave in ten minute.PL  
 ‘The train leaves in ten minutes.’

The English sentences in (71) are present-tensed. They are however used to report future-oriented eventualities: the event of Mary playing tennis the day after the UT ((71a)), the arrival of Max the evening of the UT ((71b)) and the departure of the train ten minutes after the UT ((71c)). Similarly, the French sentences in (72) are also interpreted as future events, although the verbs *joue* ‘play’, *arrive* ‘arrive’ and *part* ‘leave’ are morphologically in the present tense.

The data above show that languages with overt tense, such as English and French, also have sentences with no overt future morphology (or a modal), which report future-oriented events. These sentences are referred to in the literature as *futurate* sentences. (Copley 2002 among others)

Using present tense to refer to future eventualities is not a newly observed phenomenon in Indo-European languages. In *The English Grammar*, Miege (1688) points out that the present tensed sentence in (73) conveys ‘tomorrow will be a holiday’:

- (73) To morrow is a Holy Day.

Miege (1688:70)

Similar examples can be found in De la Touche (1696) for French:<sup>61</sup>

- (74) Je pars demain.  
 1SG leave tomorrow  
 ‘I leave tomorrow.’

De la Touche (1696:240)

Futurate sentences<sup>62</sup> in morphologically “tensed” languages are interesting for our current study, because they have striking

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<sup>61</sup> The reader can consult Binnick (1991) for a more detailed overview of futurate sentences.

<sup>62</sup> English distinguishes *simple* futurates as in (71) from *progressive* futurates as in (71’) below.

similarities with the BF sentences in Mandarin. The Mandarin counterparts of the futurate sentences discussed above contain neither overt functional morphemes nor modal verbs, as shown in (75) below.

- (71') a. Mary *is playing* tennis tomorrow.  
 b. Max *is arriving* tonight.  
 c. The train *is leaving* in ten minutes.

Although both (71) and (71') report future-oriented events, they are not asserting the same thing. Copley (2002:50) illustrates the difference between simple futurates and progressive futurates by using the two questions in (i) below. The progressive futurate in (i-a) “asks whether the plan provides for Joe to go skydiving tomorrow”, and the simple futurate in (i-b) presupposes a plan for Joe to go skydiving, and “asks whether tomorrow is the day”.

- (i) a. Is Joe going skydiving tomorrow?  
 b. Does Joe go skydiving tomorrow?

The reader can refer to Copley (2002) for details about the semantics of simple futurates and progressive futurates.

In Mandarin, however, the progressive form does not allow future construals even in the presence of a future adverb, as shown in (75').

- (75') a. \*Mǎlì míngtiān zài dǎ wǎngqiú.  
 Mali tomorrow PROG play tennis  
 b. \*Lùlù jīnwǎn zài dào.  
 Lulu tonight PROG arrive  
 c. \*Huǒchē zài guò shí fēnzhōng zài fāchē.  
 train more pass ten minute PROG leave

A modal can rescue some progressive sentences from ill-formedness, but they are interpreted as ongoing events at a future time, as shown in ((75''a)), which is different from the English futurate in (75''b). The latter conveys that the event of Mary playing tennis will *begin* at five “tomorrow”.

- (75'') a. Mǎlì míngtiān wǔdiǎn huì zài dǎ wǎngqiú.  
 Mali tomorrow five.o'clock MOD PROG play tennis  
 ‘Mali will be playing tennis tomorrow at five.’  
 b. Mary is playing tennis tomorrow at five.

As far as this dissertation is concerned, we do not place great emphasis on the contrast between simple futurates and progressive futurates, since the Mandarin progressive does not allow future-oriented readings without a modal.

- (75) a. Mǎlì míngtiān dǎ wǎngqiú.  
 Mali tomorrow play tennis  
 ‘Mali plays tennis tomorrow.’
- b. Lùlù jīnwǎn dào.  
 Lulu tonight arrive  
 ‘Lulu arrives tonight.’
- c. Huǒchē zài guò shí fēnzhōng fāchē.  
 train more pass ten minute leave  
 ‘The train leaves in ten minutes.’

Interestingly, in both English and French, not all present tensed sentences can describe future eventualities. Some sentences require a modal or the future tense to allow future readings, as illustrated in (76) and (77) below:<sup>63</sup>

- (76) a. ?John is very frustrated tomorrow.  
 a’. John will be very frustrated tomorrow.
- b. ?Peter forgets Mary later.  
 b’. Peter will forget Mary later.
- c. ?This fish dies next week.  
 c’. This fish will die next week.
- (77) a. ?Jean est très frustré demain.  
 Jean be.PRES.3SG very frustrated tomorrow
- a’. Jean sera très frustré demain.  
 Jean be.FUT.3SG very frustrated tomorrow  
 ‘Jean will be very frustrated tomorrow.’
- b. ?Pierre oublie Marie plus tard.  
 Pierre forget.PRES.3SG Marie more late
- b’. Pierre oubliera Marie plus tard.  
 Pierre forget.FUT.3SG Marie more late  
 ‘Pierre will forget Marie later.’

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<sup>63</sup> (76a, c) and (77a, c) are acceptable in scheduling scenarios. (76b) and (77b) can be used in recounting the plot of a film for example.

- c. ?Ce poisson meurt la semaine prochaine.  
 this fish die.PRES.3SG D week next
- c'. Ce poisson mourra la semaine prochaine.  
 this fish die.FUT.3SG D week next  
 'This fish will die next week.'

With an adverb indicating a future time, the English sentences in (76a b, c) and their French counterparts in (77a, b, c) are in the present tense but they are ungrammatical. To license future readings for these sentences, a modal or the future tense is required, as shown in (76a', b', c') and (77a', b', c').<sup>64</sup>

Mandarin sentences containing the same predicates as (76) and (77) have similar behaviors: when the predicate is in the bare form, the sentence with a future time adverb is ill-formed, as shown in (7) repeated as (78a, b, c); while in the presence of a modal, the future reading is legitimated, as the cases in (78a', b', c').

- (78) a. \*Míngtiān Lùlu hěn jǔsàng.  
 tomorrow Lulu very frustrated
- a'. Míngtiān Lùlu huì hěn jǔsàng.  
 tomorrow Lulu MOD very frustrated  
 'Tomorrow, Lulu will be very frustrated.'
- b. \*Xiǎoxīn yǐhòu wàngjì Mǎlì.  
 Xiaoxin later forget Mary
- b'. Xiǎoxīn yǐhòu huì wàngjì Mǎlì.  
 Xiaoxin later MOD forget Mary  
 'Xiaoxin will forget Mary later.'
- c. \*Zhèi-tiáo yú xià zhōu sǐ.  
 this-CL fish next week die

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<sup>64</sup> Notice that the progressive counterpart of (76c) given in (76c') is a felicitous sentence and means that Mac is programmed to die next week. See also footnote 62.  
 (76) c'. Mac is dying next week.

c'. Zhèi-tiáo yú xià zhōu kěndìng huì sǐ.  
 this-CL fish next week definitely MOD die  
 'This fish will definitely die next week.'

The data examined so far show that the contrast between BF sentences *vs.* MF sentences in Mandarin is very similar to the contrast between *futurates vs.* modal/tensed future sentences in English and French: while predicates like *play tennis* and *arrive* in both Mandarin and English / French can receive a future-oriented reading without a modal, the eventualities conveyed by predicates such as *frustrated* and *forget* cannot receive future construals in the absence of an overt future tense or a modal.

The similar behavior of BF sentences in Mandarin and *futurate* sentences in English and French suggests that the source of the future-oriented readings of these sentences might be the same. The questions that arise at this point are the following: Can we relate the *futurate* construals with the lack of overt tense marking? Does the lexical meaning of the predicate constrain the future anchoring of the eventuality? Are there other factors (overt or not) that license future construals? Some possible answers will be considered in the following section. We show that the future readings of BF sentences in Mandarin are derived from a covert modal ingredient.

### 5.4.3 The *plan* in *futurates*

Given the striking similarities observed between the BF sentences in Mandarin and the *futurate* sentences in English, their temporal interpretation might be derived the same way. The potential sources of the future construals are:

- i) tenses (overt or covert);
- ii) lexical properties of the predicate;
- iii) covert modals.

Is tense the source? For English and French, there are proposals that consider the present tense as the preparatory phrase of the future-oriented eventuality, and as such explain the use of present tense (simple and progressive form) in sentences describing future events. This cannot be the right answer for Mandarin, since, as we have shown, Mandarin does not have a present but a NONFUT tense.

We will argue that although the lexical property of the predicate may play a minor role in determining whether the bare forms allow future construals, the source of the temporal readings of BF sentences lies in the modal component involved in the described situation.

Firstly, the temporal readings of BF sentences and futurate sentences are not directly derived from tense. Under our hypothesis presented in Section 5.3, sentences with BPs contain a covert tense NONFUT, which only selects past and present intervals as the RT for the eventuality described by the sentence. Consequently, bare sentences are predicted to yield past or present, but not future readings, contrary to fact. Similarly, English futurates are morphologically in the present tense. If we assume that the morphological present tense is the spell-out of the semantic present (in the relevant cases), which requires the RT to overlap the UT, futurates should describe present situations, which is clearly not the case. In brief, neither the covert NONFUT tense in Mandarin nor the present tense in English gives rise to future references. Therefore, the overt or covert tense fails to capture the future readings of BF and futurate sentences.

Secondly, the temporal readings of BF sentences and futurate sentences are not directly related to the lexical meaning of the predicate.

Notice that the data discussed in the previous section seem to suggest a correlation between the possibility of yielding future readings without future tense or modals and the predicate: while *play tennis*, *arrive* and *leave* allow future readings without a modal or the future tense, *be frustrated*, *forget* and *die* require a modal or overt future tense to report future eventualities. Moreover, this observation is valid cross-linguistically. Suppose that the verbs that we considered are semantically (quasi-)equivalent in Mandarin, English and French, then it is possible that the temporal readings of these sentences are closely related to the lexical meaning of the predicates.

Suppose that the lexical property of the predicate is a plausible source of the future construals for BF sentences. How can we define this property? Does it correlate with the Vendlerian aspectual classes? This question does not seem to have a clear-cut answer, based on the data discussed in Section 5.1 and our investigation of verbs: while activities and accomplishments easily receive future-oriented

construals without a modal, most states and achievements require a modal to be interpreted with future time reference. However, there is no strict correlation between the aspectual class of a predicate and whether its bare form allows future readings, because in each class, there are verbs that require a modal for future readings and also verbs that do not. If the lexical properties of the predicates contribute somehow to the future-oriented construals, they must differ from the properties characterizing aspectual classes; and in this case, the future construals of BF sentences might be related to some covert element.

To clarify this issue, we now look into futurate sentences in English, which, by virtue of their similar construction to BF sentences in Mandarin, might shed light on our puzzle.

As we have seen in the previous section, futurate sentences have long been of interest to both English and French linguists. Reichenbach (1947) and Binnick (1991) evoke a certain predictability of futurates. Based on Lakoff's (1971:339) observation of the difference between the futurate sentence in (79a) and the modal future sentence in (79b), Vetter (1973:106) and Dowty (1979)<sup>65</sup> argue that futurates describe events "which can be planned in the strict sense; that is, one over which the participants presently have control".

- (79) a. The Yankees play the Red Sox tomorrow.  
 b. The Yankees \*(will) play well tomorrow.

Lakoff (1971:339)

Smith (1991:246) points out that "the futurate requires some kind of plan, schedule, control, or pattern of events". Copley (2002, 2008b) also highlights the component of planning involved in *futurate* sentences. To quote,

*"A futurate is a sentence with no obvious means of future reference, which conveys that a future-oriented eventuality is planned or scheduled."*

Copley (2008b:261)

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<sup>65</sup> Dowty (1979) gives an interesting discussion of futurates, by focusing on the semantics of progressive futurates, that we will not detail here. (See also footnote 62.)

She argues that a futurate sentence like (80a) reports a planned event in a future time (on the day following the day of the UT). In contrast, (80b) is odd because the event of winning is normally unplannable. (80c) is perfect as report of a future event with the modal *will*. However, (80b) is acceptable in a context where someone fixed the game and thus the winner is “decided” beforehand.

- (80) a. The Red Sox play the Yankees tomorrow.  
 b. #The Red Sox defeat the Yankees tomorrow.  
 c. The Red Sox will defeat the Yankees tomorrow.

The data in Mandarin below show similar behaviors, as shown in (81):

- (81) a. Zhōngguó duì míngtiān bǐsài.  
 China team tomorrow play  
 ‘The Chinese team plays tomorrow.’  
 b. #Zhōngguó duì míngtiān yíng.  
 China team tomorrow win  
 Intended: ‘The Chinese team will win tomorrow.’  
 c. Zhōngguó duì míngtiān néng yíng.  
 China team tomorrow can win  
 ‘The Chinese team can win tomorrow.’

While the bare verb *bǐsài* ‘play’ can easily receive future-oriented readings without a modal, the verb *yíng* ‘win’ normally requires a modal to allow future readings. However (81b) is acceptable if the speaker is informed that the game was fixed.

Recall the sentences in (20) discussed in Section 5.1.2 repeated as (82) below.

- (82) a. #Lùlu yìhuìr kū.  
 Lulu a.moment cry  
 Intended: ‘Lulu will cry in a moment.’  
 b. Lùlu yìhuìr huì kū.  
 Lulu a.moment MOD cry  
 ‘Lulu will cry in a moment.’

We have mentioned that a specific context can rescue (82a) from oddness: if the speaker is talking about a crying scene in a play that takes place later than the UT, (82a) is acceptable, although the

sentence with a modal in (82b) remains a better choice than (82a) even in this context.

The possibility of overcoming the oddness of (80b) in English and (81b)/(82a) in Mandarin by specific contexts rather than overt morphological change in the sentence suggests that we cannot entirely attribute the oddness of these sentences to the lexical meaning of the predicate, even if certain predicates lead more likely to infelicitous sentences than others. (80b), (81b) and (82a) sound odd probably because the contexts legitimizing them cannot be easily/naturally associated with the eventuality described by the predicate. The lexical meaning of *defeat*, *yíng* ‘win’ and *kū* ‘cry’ might be responsible for the rareness of the contexts licensing future construals without modals, but they should be definitely discharged from full responsibility for the oddness, because if the lexical meaning of the predicate gives rise to the oddness, contexts should not be able to improve the acceptability of the sentence. Then what is the source of the oddness of these sentences? Why does the context rescue them of the ill-formedness?

Copley (2002, 2008b) argues that the semantics of futurates in English is related to the notion of *plans*. Whoever makes the plan is referred to as the “director” *d*. (80a) conveys that there is a plan for a game in the day after the UT. The director *d* has not only the ability but also the commitment to make the event described by the predicate (P-event) happen. The definition of *direction* is given in (83):

(83) An entity *d* *directs* a proposition *P* in *w* at *t* iff:

$\forall w'$ , *d* has the same abilities in *w'* as in *w*:

[ $\forall w''$  metaphysically accessible from *w'* at *t* and consistent with *d*'s commitments in *w'* at *t*:

[ $\forall w'''$  metaphysically accessible from *w* at *t*:

[ $\exists t' > t$ : [*P*(*w''*)(*t'*)]  $\Leftrightarrow$  [ $\exists t'' > t$ : [*P*(*w'''*)(*t''*)]]]]]

(Copley 2008b:272)

(83) defines *direction* by the abilities of *d* in metaphysically possible worlds of a world *w*. If *w''* is metaphysically accessible from *w'* at *t* (in other words, *w''* has exactly the same history as *w'* at *t*), *d* should have the same abilities in *w''* as in *w'* to be the director of *P*. In each

metaphysically accessible world  $w'''$  of  $w''$ ,  $d$  has the same commitments as in  $w''$ .

Copley claims that futurate sentences involve a modal operator PLAN, defined in (84):

- (84)  $\text{PLAN}(d)(P)(w)(t)$  is defined iff  $d$  directs  $P$  in  $w$  at  $t$ . If defined,  
 $\text{PLAN}(d)(P)(w)(t) = 1$  iff  $d$  is committed to  $P$  in  $w$  at  $t$ .

A futurate sentence is defined only if in the world  $w$  at  $t$ ,  $d$  has the ability of to ensure that  $P$  holds in a future time. Where defined, the sentence is true iff  $d$  has the commitment to make the  $P$ -event happen.

Note that futurates in Copley's definition assert not future eventualities but a *present* plan and the commitments of the director to the plan at the moment of the utterance. In other words, futurates do not involve future tense.<sup>66</sup> If Copley is right, present-tensed futurates in English are not only morphologically in the present tense but also contain a semantic present.<sup>67</sup>

#### 5.4.4 Non-future plans in Mandarin

Following Copley (2002, 2008b), we claim that bare sentences yielding future-oriented eventualities in Mandarin also contain a silent modal PLAN, which requires the contextually provided *director* to have the ability and the commitments of realizing the eventuality described by the predicate in a future time.

However, there is a fundamental difference between Mandarin bare futures and English futurates. That is, while futurates in English assert a *present* plan, BFs in Mandarin asserts a *non-future* plan.

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<sup>66</sup> See also Copley (2008a), in which she points out that “when we assert a futurate, we are asserting a stative of the present, not asserting an eventive of the future.”

(Copley 2008a:72)

<sup>67</sup> For interesting discussion of futurates in French child vs. adult grammar, see Lungu (2012).

Consider the conversation in (85).

- (85) a. - Xiǎoxīn shénme shíhou dào?  
 Xiaoxin what time arrive  
 ‘When is Xiaoxin arriving?’
- b. - Liǎng-diǎn dào.  
 two-o’clock arrive  
 ‘He is arriving at 2.’

Both (85a) and (85b) have a bare verb *dào* ‘arrive’. With no specific context, these sentences have very similar readings to the English futurates in (86). In other words, (85) presupposes a plan for *Xiaoxin* to arrive at some time, and the conversation is about the planned arrival time. In the absence of a pre-established reference time, (85a,b) are interpreted as describing a scheduled future event according to a *present* plan.

- (86) a. -When is Xiaoxin arriving?  
 b. - He is arriving at 2.

Although the sequence in (85) is translated in the present tense as its “counterpart” in (86), it is different from (86) because it can receive past readings if a proper context is set up.

Suppose that *Xiaoxin* has an appointment with the manager at 2pm. It’s 3pm, and he hasn’t shown up. A conversation between the manager (M) and his secretary (S) could be (85’).

- (85’) a. M: Dōu sān-diǎn le! Xiǎoxīn shénme  
 DOU three-o’clock FIN.LE Xiaoxin what  
 shíhou dào?  
 time arrive  
 ‘It’s already 3 o’clock! When is/was Xiaoxin arriving?’

(The secretary checks the agenda...)

- b. S: Liǎng-diǎn dào. Yǒu-kěnéng tā  
 two-o’clock arrive have-possibility 3SG  
 fēijī wǎndiǎn le.  
 plane delay PERF



Note that PLAN in (89) quantifies over worlds. To express this idea, the following derivation contains a world parameter  $w$  that we have been avoiding till now for sake of simplicity.

- (90) a.  $\llbracket \text{Xiǎoxīn} \rrbracket^{g,w,c} = X$   
 b.  $\llbracket t_j \rrbracket^{g,w,c} = g(j)$   
 c.  $\llbracket \text{NONFUT} \rrbracket^{g,w,c} = \lambda t: t < t_c \text{ or } t \supseteq t_c. t$   
 d.  $\llbracket \text{VPXiǎoxīn jīnwǎn zài jiā} \rrbracket^{g,w,c} = 1$  iff  $X$  is at home in  $w$  throughout the evening of the day containing  $t_c$ <sup>68</sup>  
 e.  $\llbracket \text{PLAN} \rrbracket^{g,w,c} = \lambda x_e. \lambda P_{\langle s,t \rangle}. \lambda t_i: x$  directs  $P$  in  $w$  at  $t$ .  $x$  is committed to  $P$  in  $w$  at  $t$ .

- (91)  $\llbracket (88) \rrbracket^{g,w,c}$  is defined only if, in  $w$  at  $g(j)$ ,  $X$  directs the proposition  $\lambda w'. X$  is at home in  $w'$  throughout the evening of the day containing  $t_c$ , and if  $g(j) < t_c$  or  $g(j) \supseteq t_c$ .

Where defined,  $\llbracket (88) \rrbracket^{g,w,c} = 1$  iff, in  $w$  at  $g(j)$ ,  $X$  is committed to the proposition  $\lambda w'. X$  is at home in  $w'$  throughout the evening of the day containing  $t_c$ ; 0 otherwise

Note that cases like (92) in Mandarin and (93) in English may challenge the modal analysis of futurates presented above.

- (92) Míngtiān      tàiyáng      qī-diǎn      xià-shān.  
 tomorrow      sun      seven-o'clock      down-mountain  
 'The sun sets tomorrow at seven.'

- (93) The sun sets tomorrow at 7.

(Adapted from Goodman 1973), quoted in Dowty 1979:156)

<sup>68</sup> Note that the VP would then compose with its sister by Heim and Kratzer's (1998:308) rule of Intensional Functional Application: *If  $\alpha$  is a branching node and  $\{\beta, \gamma\}$  the set of its daughters, then, for any possible world  $w$  and any assignment  $a$ , if  $\llbracket \beta \rrbracket^{w,a}$  is a function whose domain contains  $\lambda w'$ , then  $\llbracket \alpha \rrbracket^{w,a} = \llbracket \beta \rrbracket^{w,a}(\lambda w'. \llbracket \gamma \rrbracket^{w',a})$ .*

(92) and (93) are grammatical as reporting a sunset at a future time, which cannot be controlled by an animate agent or “director”. Both Leech (1971) and Goodman (1973) point out that futurate sentences like (93) describe something other than a *plan* since the eventuality cannot be planned. From this point of view, the semantics of futurates in English and BF sentences in Mandarin might be more complicated than the version presented so far. In this dissertation, we will not go any further into the question of how natural forces interact with BF sentences.

## 5.5 Summary

To summarize, we argued:

- i) in the first place for a covert tense NONFUT in Mandarin, which restricts the temporal reference of bare sentences to non-future times. We showed that the null tense NONFUT permits us to account for the asymmetry between past / present time adverbs and future time adverbs as to their interaction with bare predicates: past / present adverbs but not future adverbs can alone fix the RT for bare sentences;
- ii) in the second place for a covert modal ingredient in bare sentences yielding future construals. By showing the striking similarities between bare future sentences in Mandarin and futurate sentences in English and French, we claimed that the future readings of BF sentences in Mandarin and the futurate sentences in English and French result from the same semantic component, a modal ingredient involving a *plan*. What is important is that present-tensed futurates in English and French assert a *present* plan, while bare futures in Mandarin assert a *non-future* plan.