Tense Anchoring in Chinese
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In this paper, we relate the so-called incompleteness effects observed in Chinese to a failure of anchoring tense, i.e., to guarantee a proper temporal reference of a given sentence through syntactic measures. Based on an insight from S. Huang's (2005) plurality analysis of eventuality predicates, we propose to analyze tense anchoring as a process of spelling out an underlying event argument by a variety of morpho-syntactic means. This process may involve event coordination, event subordination, event modification, event quantification, or verb raising to v/T. Furthermore, a three-layered analysis of aspectual projections is adopted to account for a disparity between syntactic and semantic groupings of Chinese aspects, in that syntax and semantics may indeed have different agendas towards securing a temporal reference in grammatical terms. As a result, a unified account can be provided for the incompleteness effects typically associated with middle and inner aspects.

Keywords: Tense Anchoring, Incompleteness Effects, Chinese Aspects, Syntax-Semantics Interface

0. The Incompleteness Puzzle

In Chinese there is a well-documented phenomenon which has inspired a series of studies on the notion “tense anchoring”. It has to do with native speakers’ feeling of “incompleteness” toward a cluster of sentences which are inflected for aspectual construals on the surface, but still lack the ability to stand alone. Let’s take (1b) as a starting point: predicates with the durative aspect -zhe alone sounds somewhat incomplete. Interestingly, the sentence improves considerably when an adverb of quantification is added, as evidenced by (1a) (% marks the incompleteness in question; Dur: durative aspect; Prf: perfect aspect):

(1) adverbs of quantification:

a. Akiu yizhi pao-zhe.
   Akiu continuously run-Dur
   ‘Xiaoli is running continuously.’

b. % Akiu pao-zhe.
   Akiu run-Dur

In addition, coordination helps to eradicate this feeling of incompleteness as well: Similar to (1b), (2b) is somewhat lacking. In comparison, (2a) sounds complete with another conjunct, and there is no need to do anything further to the sentence:

(2) coordinate constructions:

a. Akiu yibian kan-zhe dianshi, yibian xie-zhe baogao.
   Akiu on.the.one.hand watch-Dur TV on.the.other write-Dur report
   ‘Akiu is watching TV and writing the report at the same time.’

b. % Akiu kan-zhe dianshi.
   Akiu watch-Dur TV

For some reason, we may also avoid the incompleteness by embedding an incomplete sentence such as (3b). The result is a wholesome sentence like (3a). This suggests that subordination may serve to remove the incompleteness of (3b) as well:

(3) adjunct clauses:

   Akiu cry-Dur return
   ‘Akiu came back crying.’

b. % Akiu ku-zhe.
   Akiu cry-Dur

Furthermore, there is a pretty robust contrast between the progressive aspect zai and the durative aspect -zhe with respect to the incompleteness. For instance, (4a) can be licensed with just zai, but (4b) cannot stand alone with -zhe:

(4) contrast with the progressive aspect:

a. Akiu zai ku.
   Akiu Prg cry
   ‘Akiu is crying.’

b. % Akiu ku-zhe.
   Akiu cry-Dur

This indicates that the progressive aspect -zai can somehow license (4a) by itself. By contrast, the durative aspect -zhe is simply incapable of the same construal. Finally, it appears that some of the existential constructions can work with -zhe to avoid the incompleteness effects. First note that (5a) seems to present a counterexample to our observation. But once we take its paraphrase (5b) into consideration, it becomes clear the existential construal is instrumental in getting rid of this feeling of incompleteness.

(5) locative-existential constructions:

a. qiang-shang gua-zhe yi-fu hua
   wall-on hang-Dur one-Cl painting
   ‘On the wall hangs a painting.’
b. qiang-shang you yi-fu hua gua-zhe.
   wall-on have-one-Cl painting hang-Dur
   ‘There is a painting hanging on the wall.’

All in all, we have shown that there are five types of strategy to save predicates with -zhe from the incompleteness effects; that is, adverbial quantification, coordination, subordination, and locative-existential construals, or just replacing it with the progressive aspect zai (also cf. Tsai & Shu 2004). It becomes clear at this stage that the cluster of phenomena presented above must have something to do with the presence/absence of licensing from certain syntactic structures. In this paper, we take the incompleteness in question to be a case for tense anchoring on the syntactic level, in that only when certain structural requirements are met, the usage of -zhe can be licensed.

The logical question to ask next is the following: What does it take to anchor the tense of a given eventuality sentence in Chinese? Or to put it in another way, what property do these five strategies share, such that they all help to cancel the incompleteness effects? In section one, we would like to reflect upon the above issue by elaborating some of the observations made in the literature. Section two attempts to provide a coherent account in terms of the syntax-semantics interface: That is, we propose to relate the notion “tense anchoring” to the licensing of an underlying event argument in syntax. It will become clear that the incompleteness effects in question provide excellent material to study how syntax converses with semantics. Section three conclude this paper by speculating on how this syntactic sense of tense anchoring should be implemented through the aspectual construals in Chinese.

1. Event Argument and Syntactic Tense Anchoring

Before going further into the common property shared by the five types of strategy illustrated above, it is instructive to note that -zhe is not the only aspect subject to the incompleteness. Lu (1986), Kong (1994), and Shen (1995) have long pointed out that the verbal -le (glossed as $le^1$ here), cannot render a sentence complete by itself. As shown below, (6a) sounds somewhat incomplete. However, once a temporal adverbial like xiawu ‘afternoon’ is added, the sentence becomes self-sufficient, as in (6b):

(6) a. % Akiu na-le shu.
    Akiu take-Prf book
    ‘Akiu took books.’

b. Akiu xiawu na-le shu.
   Akiu afternoon take-Prf book
   ‘Akiu took books this afternoon.’
We can also make (6a) complete by adding a numeral specifier to the bare NP object, as in (6c). Alternatively, we may add a modal or a negation, as exemplified by (6d). Moreover, embedding the incomplete sentence again helps to eradicate the incompleteness associated with the widow -le¹, as in (6e). Another strategy resorts to the sentence final particle -le (glossed as le² here), which typically expresses inchoativity and/or evidentiality, as in (6f). Finally, (6a) can be made wholesome simply by replacing -le¹ with the experiential aspect -guo. Here the incompleteness effects observed above re-emerge with -le¹, which can likewise be cancelled by employing temporal adverbials, numeral specifiers on objects, modals/negation, subordination, and certain aspectual markers such as guo- and -le².

Adding to the above observations, Tang & Lee (2000) notes that the incompleteness effects also appear in sentences without any inflection at all. For instance, (7a) sounds pretty odd. On the other hand, the choices to eradicate the incompleteness effects include conjunction, as in (7b), and a counterfactual question such as (7c), as well as an imperative sentence such as (7d):

(7) a. % Akiu na shu.
   Akiu take book
   ‘Akiu took books.’

   b. Akiu na shu, wo na qikan.
      Akiu take book I take journal
      ‘Akiu takes books, and I journals.

   c. Akiu na shu? bu keneng!
      Akiu take book not possible
      ‘Akiu took the book? No way!’
Tang and Lee take this addition as an indication that anchoring can be done by resorting to a focus, interrogative, and imperative construals. The result is the Generalized Anchoring Principle, as stated below:

(8) **Generalized Anchoring Principle:**

Every sentences must be either tensed or focused at the LF interface level.

The idea is to extend Enç’s (1987) proposal that an event is anchored with respect to the moment of speech or a reference event, claiming that an event can be anchored not only to a speech time or a reference event, but also in contrast to a reference set of events.

In this study, I will take the Generalized Anchoring Principle to be a descriptive generalization rather than a genuine principle, in that it is difficult to see how the focus account may be extended to (7c) and (7d), where the presence of counterfactual/imperative operators seems to be the only factor. Consequently, we are to try out an approach along the line of S. Huang (2005), where universal construals are taken to involve a skolem function operator. This operator links a pair of variables by making the value choice of a subject variable depend on that of an event variable introduced by the main predicate. This event variable is essentially a derivative of the Neo-Davidsonian argument à la Parsons (1990):

(9) a. Every boy left.
   b. $\forall x[\text{BOY}(x) \rightarrow \text{LEAVE}(x, f(x)) \land T(f(x)) \text{ BEFORE now}]$
   (where $f$ is a function that maps boys to events, and $T$ is the tense operator that maps events onto times)

Crucially, the skolem function requires a plural predicate which makes the distributive construal of (10a) possible. If the predicate happens to be collective, as in (10b), the derivation simply crashes:

(10) a. Every boy left separately.
   b. * Every boy left together.

This accounts for the fact that *dou*, a sum operator in Huang’s terms, is obligatory in presence of a unique event, as in (11a). By contrast, when multiple events are involved, *dou* becomes optional, as evidenced by (11b):

(11) a. mei yi-ge nuhai (dou) chang-le yi-shou ge.
   every one-CL girl all sing-Prf one-CL song
   'Every girl sang a song.'
b. mei yi-ge  nuhai *(dou) chang-le zhe-shou ge.
   every one-CL girl all sing-Prf this-CL song
   'Every girl sang a song.'

Huang follows Parsons (1990) in treating tense as a constraider of the event argument, as shown in (8b), arguing that the bare form of a verb denotes a kind of event and the constrained form of a verb denotes a specific event. Huang then furthers the claim that “in order to be available for quantification, the event argument must be licensed by an overt lexical or morphological element, such as tense or other forms of constraider.” As a result, English differs from Chinese in having tense morphology, which introduces the event variable by default.

Huang backs up her claim by examining a set of tenseless sentences in English, as shown by (12a) and (12b):

(12) a. Joe clean up the kitchen? Not in a million years!
b. A man clean up the kitchen? Not in a million years!
c. * Every man clean up the kitchen? Not in a million years!
d. Every man clean up the kitchen [when he’s done cooking]?
   Not in a million years!

There is no visible tense in this sort of construals, and what is interesting for our purpose here is that when we replace the indefinite article with a universal quantifier, the sentence is degraded considerably, as (12c). For Huang, (12c) is ruled out for the same reason as (11b). A remedy to this situation comes from (12d). Here the event is constrained by the when-clause rather than by the usual tense morphology, and the sentence is still good. As a matter of fact, (12c) can be improved by employing the old trick, namely, by replacing the definite object the kitchen with an indefinite one, as evidenced by (13):

(13) Every man clean up a kitchen? Not in a million years!

The reason again is that the predicate clean up a kitchen is already pluralized, and the event variable becomes available to the skolem function construal. Huang points out that the same account applies to adverbial construals of mei ‘every’, as exemplified by (14a):

(14) a. Akiu mei kan yi-bu dianying dou hui ku.
Akiu every watch one-CL movie all will cry
   ‘Every time Akiu watched a movie, he would cry.’

b.* Akiu mei kan zhe-bu dianying dou hui ku.
Akiu every watch this-CL movie all will cry
   ‘Every time Akiu watched this movie, he would cry.’
c. Akiu mei kan  yici zhe-bu dianying dou hui ku.
Akiu every watch once this-CL movie all will cry

(14b) can be improved by adding an indefinite frequency phrase  yici ‘once’, which again pluralizes the predicate and makes the universal construal possible. All things considered, our question is then reduced to what it takes to spell out an event argument in syntax in a so-called “tenseless” language such as Chinese, which in turn points to the possibility that we may have a unified account of the licensing of  dou-quantification and the incompleteness effects of (1-7) in one sweep. We will pursue the intuition next.

2. The Representational Means for Tense Anchoring

Before going into the details of our analysis, first I would like to distinguish two different notions of anchoring. One is construed in Enç’s sense in that we are inquiring how a given event is anchored to the utterance time and/or the topic time along the line of Klein (1994). We therefore have a semantic notion of anchoring, which issue has been addressed throughout the years by Klein (1994), Klein et al. (2000), and Lin (2002, 2003), among many others. In this paper, I would like to focus on the other notion of anchoring, and ask how a semantic tense is anchored to a given morpho-syntactic structure. The idea is that the incompleteness effects in question actually result from a failure to implement tense anchoring in the syntactic sense. I will entertain the possibility that tense anchoring should be treated as a special case of syntax-semantics mapping, which requires the event argument to be spelled out for tense operator binding.

More specifically, our proposal is built upon S. Huang’s (2005) insight illustrated above: That is, tense anchoring should be understood as a process of spelling out an event variable in morpho-syntactic terms. This variable is in turn subject to tense operator binding. In other words, to get a semantic sense anchored to a morpho-syntactic structure is to get the event variable spelled out by various types of strategies: In English, the event variable is spelled out by default thanks to its full-fledged tense morphology. Chinese, by contrast, employs all sorts of eventuality construals such as event quantification, event coordination, event subordination, and event modification to bring out the event variable, as we have shown at the beginning of this presentation.

Therefore, our view on Chinese tenses is a bit different from the one held by Lin (2002, 2003). I agree with him that Chinese has semantic tenses, but I do think Chinese also has syntactic tenses, though in a pretty weak form. Therefore, unlike its English counterpart, a Chinese tense cannot bring out the event variable by itself. It has to rely on the adverb of quantification in (1a), the deontic and negative operators in (6d), the counterfactual operator in (7c), and the imperative operator in (7d).
I. Event quantification:

(1) a. Akiu yizhi pao-zhe. (adverb of quantification)
    Akiu continually run-Imp
    ‘Xiaoli kept running.’

(6) d. Akiu yinggai/mei na shu. (deontic/negative operator)
    Akiu should/have.not take book
    ‘Akiu should take/have not taken books.’

(7) c. Akiu na shu? bu keneng! (counterfactual operator)
    Akiu take book not possible
    ‘Akiu took the book? No way!’

(7) d. na shu! (imperative operator)
    take book
    ‘Take the book!’

Alternatively, the contrastive focus operator associated with coordination also does the trick, as in (2a) and (7b):

II. Event coordination:

(2) a. Akiu yibian kan-zhe dianshi, yibian xie-zhe baogao.
    Akiu on.the.one.hand watch-Imp TV on.the.other write-Imp report
    ‘Akiu was watching TV and writing reports at the same time.’

(7) b. Akiu na shu, wo na qikan.
    Akiu take book I take journal
    ‘Akiu takes books, and I journals.

But how about subordination in (3a) and (6e): Here we can make an educated guess: Either tense anchoring is irrelevant in the embedded context due to its anaphoric nature, or some implicit operator kicks in to do the job:

III. Event subordination:

(3) a. Akiu ku-zhe huilai.
    Akiu cry-Imp return
    ‘Akiu came back crying.’

(6) e. Akiu na-le shu jiu pao.
    Akiu take-Prf book then run
    ‘Akiu ran away immediately after taking the book.’

Finally, it’s quite natural to assume that, when an event argument is modified or predicated upon, it has to be visible in syntax:
IV. Event modification/predication:

(6) b. Akiu xiawu na-le shu.
Akiu afternoon take-Prf book
‘Akiu took books this afternoon.’

(6) c. Akiu na-le san-ben shu.
Akiu take-Prf three-CL book
‘Akiu took three books.’

cf. Akiu na-le san-ci shu.
Akiu take-Prf three-time book
‘Akiu took books three times.’

In sum, I want to propose that syntactic tenses are linked or mapped to semantic tenses in a principled way, and the crucial factor is the syntactic visibility of this Neo-Davidsonian argument. I think the incompleteness effects found in Chinese provide some evidence to this mapping, which is otherwise trivial in languages with overt tense morphology.

3. The Derivational Means for Tense Anchoring

Before concluding our discussion, it would be instructive to think of some ways to bring out the event variable derivationally, as the structure-oriented construals of (4a,b) and (5a,b) seem to suggest. The first one has to do with Asp-to-T raising. Here we adopt a three-layered analysis of aspecual projections, as portrayed by Tenny (2000), Shu (2003), and Liao (2004):

(10)    ..... TP
        /          /
       T          AspP1 (outer aspect)
        /          /
       Asp1        vP
          /          /
         v          AspP2 (middle aspect)
           /          /
          Asp2      V P
                          V-Asp3 (inner aspect)

Asp1:  zai of (4a), -guo of (6g)
Asp2:  -zhe\(^1\) of (1-5), and verbal -le\(^1\) of (6f)
Asp3:  the phase marker -zhe\(^2\) of (11a-f) and the complete aspect -wan of (12a,b)
The idea is that only the head of the outer AspP, i.e., Asp1, may raise to T to instantiate a lexical tense operator, whereas neither the middle aspect, i.e., Asp2, nor the inner aspect, i.e., Asp3, are capable of raising to T. Also note that Asp3 is bound only with certain types of predicates on the lowest layer. As shown below, only verbs expressing a certain degree of attachment can take the phase marker \(-zhe^2\), and only this combination may appear in an imperative sentence (cf. Yuan 1993):

\[(11)\]
\[
\begin{align*}
a. & \text{ zuo-zhe ‘sit-Imp’} & \text{(verbs of posture)} \\
b. & \text{ deng-zhe ‘wait-Imp’} & \text{(verbs of waiting)} \\
c. & \text{ gai-zhe ‘cover-Imp’} & \text{(verbs of wearing)} \\
d. & \text{ bao-zhe ‘hold-Imp’} & \text{(verbs of carrying)} \\
e. & \text{ bai-zhe ‘place-Imp’} & \text{(verbs of placement)} \\
f. & \text{ ting-zhe ‘listen-Imp’} & \text{(verbs of cognition)}
\end{align*}
\]

For instance, we can give an order to someone by saying \textit{Zuo-zhe! ‘Sit still!’} or \textit{Bao-zhe! ‘Hold on!’}, but never \textit{*Zou-zhe! ‘Keep walking!’} or \textit{*Pao-zhe! ‘Keep Running!’}. In addition, since there is no way for the complete aspect \(-wan\) to raise to T to instantiate a lexical tense, the incompleteness of (12a) is also accounted for:

\[(12)\]
\[
\begin{align*}
a. & \% \text{ Akiu chi-wan fan.} \\
& \text{ Akiu eat-finish meal} \\
& \text{‘Akiu finished the meal.’} \\
b. & \text{ Akiu chi-wan fan le.} \\
& \text{ Akiu eat-finish meal Inc} \\
& \text{‘Akiu has finished the meal.’}
\end{align*}
\]

Furthermore, we tentatively put \textit{zai} and \textit{-guo} in outer Asp, and \textit{-zhe} and \textit{-le} in middle Asp, while treating \textit{le} as an inchoative/evidential marker in the left periphery in Rizzi’s (1997) sense. This proposal has two advantages: Firstly, it provides a straightforward account of why the progress aspect \textit{zai} can stand alone in (4a), whereas the durative aspect \textit{-zhe} cannot in (4b), the reason being that as an outer aspect, there would be no problem for \textit{zai} to undergo Asp-to-T raising, and a middle aspect such as \textit{-zhe} can never reach T for tense anchoring:

\[(4)\]
\[
\begin{align*}
a. & \text{ Akiu zai ku.} \\
& \text{ Akiu Prg cry} \\
& \text{‘Akiu is crying.’} \\
b. & \% \text{ Akiu ku-zhe.} \\
& \text{ Akiu cry-Dur}
\end{align*}
\]

Secondly, our analysis explains away the fact that \textit{le} helps \textit{-le} in anchoring the tense of (6f): Here an inchoative/evidential operator is involved in bringing out the implicit event variable,
which process is essential for tense anchoring in Chinese:

(6) f. Akiu na-le\(^1\) shu\(^2\) le\(^2\).
   Akiu take-Prf book Prt
   ‘(As for now,) Akiu has taken the book.’

The same account obtains for (12b), where le\(^2\) again help -wan to steer clear from the incompleteness effect of (12a).

It is also worthwhile to note that, if our analysis is on the right track, the syntactic grouping of Chinese aspects should be distinguished from a semantic grouping such as the one proposed by Lin (2002): According to him, -zai and -zhe\(^l\) are grouped together since they involve pure aspectual construals, whereas -guo and -le\(^l\) are grouped together due to the hybrid nature of their temporal references. In other words, it seems that syntax and semantics have different agendas towards how eventuality should be realized in grammatical terms. This syntax-semantics mismatch may eventually call for a fine-grained mapping mechanism, which issue we will not pursue here.

The second way to bring out the event variable derivationally is by raising the verb to an implicit existential light verb in locative-existential constructions, which is very likely to be what happens in (5a):

(5) a. qiang-shang gua-zhe yi-fu hua.
    wall-on hang-Imp one-Cl painting
    ‘There is a painting hanging on the wall.’

b. qiang-shang you yi-fu hua gua-zhe.
    wall-on have one-Cl painting hang-Imp

(13) qiang-shang [EXT] yi-fu gua-zhe yi-fu hua
    → qiang-shang [EXT]-[gua-zhe]\(_k\) yi-fu \(t_k\) yi-fu hua

The derivation is given in (13). But how do we know there is an implicit modal in (5a)? The evidence is from its paraphrase (5b), where the existential modal you ‘have’ is clearly visible. It may well be the case that the modal, implicit or not, helps to bring out the event variable by serving as an existential operator of some sort.

4. Concluding Remarks

To wrap up our discussion, we have proposed to reduce the Generalized Anchoring Principle to a general mapping mechanism of spelling out an event variable for both universal quantification and tense operator binding. Furthermore, by examining the representational and derivational means for tense anchoring, we are able to provide a unified account of the incompleteness effects typically associated with the middle and inner aspects.
Endnotes

1 Just as a reviewer points out, it is not clear how the counterfactual question of (7c) and the imperative construal of (7d) can be classified as focus construals, as implied by (8). Therefore, the true generalization has to be operator licensing of some sort. We will return to this issue in section 2.

2 A similar proposal is entertained by Cheng (2006), where *dou* is analyzed as a maximality operator which provides contextual domain restriction on the universal construal.

3 The last three types of operators forms a natural class in licensing indefinite *wh*’s. Namely, the imperative operator, just like deontic, negative, and counterfactual operators, creates intensional context which licenses polarity items (cf. Cheng, 1991, Li 1992 and Tsai 1994, among others), as evidenced by the following data:

   (i) a. Akiu yinggai chi dian shenme. (deontic operator)
       Akiu should eat bit what
       ’Akiu should eat a bit of something.’
   b. Akiu mei chi dian shenme. (negative operator)
       Akiu have.not eat bit what
       ’Akiu should eat a bit of something.’
   c. Akiu na-le shenme? bu keneng! (counterfactual operator)
       Akiu take-Prf what not possible
       ‘Akiu took something? No way!’
   d. zuo shenme! (imperative operator)
       do what
       ‘Don’t do anything!’

4 See Wu (2004) for a raising analysis of *-le*.

5 Xuan Di (p.c.) points out that verbs like reng ‘throw’ may also involve some degree of attachment, but it nevertheless disallow the V-*zhe*! construal. To solve this issue, we may take the notion of attachment to mean ‘in constant contact with something as the result state of an action’, which verbal meaning is required for the predicates in (11a-f), but only a possibility for verbs such as reng ‘throw’ and *diu* ‘discard’. As a result, the former, but not the latter, is compatible with the construal in question.

6 More specifically, we would like to entertain the possibility that a lexical head may adjoin to a functional head, and then further to another functional head, as illustrated in (i), but a functional head cannot adjoin to a lexical head, and then further to a functional head, as in (ii):
This proposal in reminiscent of the uniformity condition on chains formulated in Chomsky (1993) and Chomsky & Lasnik (1993).
References


