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The interaction of aspect marking and the QUD in Chinese

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1. Introduction

2. New observations and generalizations

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Outline

Temporal interpretation in a language without tense morphology

The temporal interpretation of a Chinese sentence can be obtained by various factors such as situation type, aspect marking, temporal adverbs, and contextual information (Smith 1997; Lin 2006; Smith and Erbaugh 2005).

- Default (viewpoint) aspect (Lin 2006; Bohnemeyer and Swift 2004)
  Atelic predicates → imperfective aspect
  Telic predicates → perfective aspect

- Deictic pattern (Smith and Erbaugh 2005)
  Unbounded situations → present tense
  Bounded situations → past tense

  (1) 張三 住 在 香港。
       John live at Hong Kong
       'John lives in Hong Kong.'

  ''住在香港" is atelic → imperfective aspect → present tense

Aspect marking for eventive sentences

In principle, sentences with bare eventive predicates should be able obtain some temporal interpretation as well...

But many of them sound incomplete without aspect marking (Kong 1994; Tang and Lee 2000; Klein et al. 2000; Sun 2014)

(2) [昨天]　張三 聽說 ??(了) 這　件 事。
yesterday John hear -PERF this CL affair
Int: '[Yesterday] John heard this affair.'　　　　(Achievements: telic)

(3) [昨天]　張三 跟 我 說 ??(了) 這　件 事。
yesterday John to me tell -PERF this CL affair
Int: '[Yesterday] John told me this affair'　　(Accomplishments: telic)

(4) [昨天]　張三 ??(在) 跑步。
yesterday John PROG run
Int: '[Yesterday] John is running'　　　　　(Activities: atelic)

→ Overt aspect marking seems required for <u>episodic</u> readings

Aspect marking is optional in many cases

Such a requirement is often relaxed in a bunch of environments that apparently have nothing in common:

- Within certain subordinate clauses (Tang and Lee 2000; Lin 2006)

  (5) 我 認識 [*RC* 聽說 (了) 這 件 事] 的 同學。
  I know hear -PERF this CL affair DE student
  'I know the student who heard this affair'

  (6) 張三 聽說 (了) 這 件 事 之后, 我們 很 緊張。
  John hear -PERF this CL affair after we very anxious
  'After John heard this affair, we are anxious'

  (7) 因為 張三 聽說 (了) 這 件 事, 所以 我們 很 緊張
  because John hear -PERF this CL affair so we very anxious
  'Because John heard this affair, we are anxious'

Aspect marking is optional in many cases

- With narrow focus (Tang and Lee 2000)

   (8)   張三 聽說 (了) 這 件 事, 李四 聽說 (了) 那 件 事。
         John hear -PERF this CL affair Lisi hear -PERF this CL affair
         '[John]$_{CT}$ heard [this]$_F$ affair, [Lisi]$_{CT}$ heard [that]$_F$ affair.'

   (9)   只有 張三 聽說 (了) 這 件 事。
         only John hear -PERF this CL affair
         'Only [John]$_F$ heard this affair'

  (10)   張三 只 聽說 (了) 這 件 事。
         John only hear -PERF this CL affair
         'John only hear [this]$_F$ affair'

Previous accounts

1. **Optionality account** (Smith and Erbaugh 2005; Lin 2006)
Aspect morphology is syntactically optional in Chinese and bare sentences
can obtain aspectual inference based on the situation type expressed by the
predicate and contextual information.

$\rightarrow$ It overgenerates:

    (11)   ?? 張三聽說這件事。

2. **Obligatoriness account** (Klein et al. 2000; Chen 2010; Sun 2014):
Aspect morphology is required (in matrix clauses) for syntactic or semantic
reasons.

$\rightarrow$ It undergenerates:

    (12)   只有張三聽說這件事。

Previous accounts

3. **GAP account** (Tang and Lee 2000):

(13) Generalized Anchoring Principle (GAP): Every sentence must be either tensed or focused at the LF interface level.

    a. Temporal anchoring: an event is anchored with respect to the moment of speech or a reference event (Enç 1987).

    b. Focus anchoring: an item is anchored with respect to a reference set of items, or an event is anchored by a reference set of events.

→ A binary condition does capture the existing facts well. But:

1. Why focus?

2. New observations: bare matrix sentences without narrow focus

Outline

New observations

- A set of eventive predicates: they can potentially cause incompleteness without aspect marking

  (14) 張三 聽說 ??(了) 这 件 事。
      John hear -PERF this CL affair
      'John heard this affair'

  (15) 張三 跟 我 說 ??(了) 这 件 事。
      John to me tell -PERF this CL affair
      'John told me this affair'

  (16) 張三 發現　　 ??(了) 这 件 事。
      John discover -PERF this CL affair
      'John discovered this affair'

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New observations

- But when they embed another clause:

  (17) 張三 聽說 (了) [今天 特別　　熱]。
        John hear -PERF today extremely hot
        'John heard that it is extremely hot today'

  (18) 張三 跟 我 說 (了) [今天 特別　　熱]。
        John to me tell -PERF today extremely hot
        'John told me that it is extremely hot today'

  (19) 張三 發現　　(了) [今天 特別　　熱]。
        John discover -PERF today extremely hot
        'John discovered that it is extremely hot today'

The existing accounts fail to capture that those facts because those are matrix
eventive predicates (see diagnostics in Appendix) without obvious narrow
focus (they can be uttered out of the blue).

New generalizations

(20) Aspect marking is required for episodic readings only when the
information about the event realization is the main point of the
utterance (/addressing the Question Under Discussion).

Assumptions on the discourse modeling:

- The conversational goal of (many) discourses is to determine what the
actual world is like via cooperative inquiry. The immediate topic of
discussion is called the QUD (Stalnaker 1978; Roberts 1996; Büring 2003).

- The main point can address the QUD (other diagnostics, see Tonhauser
2012; Koev 2018).

What is the main point matters

Biclausal constructions can present either the embedded or the matrix proposition as the main point (Simons 2007; Murray 2014)

(21) 張三 跟 我 說 (了) [今天 特別　　熱]。
      John to me tell -PERF today extremely hot
      'John told me that it is extremely hot today'

Diagnostics:

(22) Q1: 今天天氣怎麼樣?
          'What is the weather like today?'
      A: 張三跟我說 (了) [今天特別熱]。
      → The embedded content is the main point

(23) Q2: 為什麼今天你不看天氣預報?
          'Why did you not watch weather forecast today?'
      A: 張三跟我說??(了) [今天特別熱]。
      → The realization of the telling event is the main point

What is the main point matters

The generalization also captures other existing observations:

- For a matrix sentence uttered with the neutral intonation, its default main point concerns the entailments about the event time of the matrix predicate (Abrusán 2011)

  (24) 張三 跟 我 說 ??(了) 这 件 事。
        John to me tell -PERF this CL affair
        'John told me this affair'
        → The main point is that the telling event occurred.

  (25) Q: 怎麼了? / 你怎麼知道這件事?
           'What happened?' / 'How did you know this affair?'
        A: 張三跟我說??(了) 这件事。

What is the main point matters

- When the sentence is embedded in certain subordinate clauses or contains narrow focus:

  (26) 張三 跟 我 說（了） 這 件 事 之后, 我 很 緊張。
  John to me tell -PERF this CL affair after I very anxious
  'After John told me this affair, I am anxious'

  (27) 因為 張三 跟 我 說（了） 這 件 事, 所以 我 很 緊張
  because John to me tell -PERF this CL affair so I very anxious
  'Because John heard this affair, I am anxious'

  (28) 只有 張三 跟 我 說（了） 這 件 事。
  only John to me tell -PERF this CL affair
  'Only [John]$_F$ told me this affair'

  → The main point is *not* about the realization of the telling event.

What is the main point matters

In fact, the realizaion of the telling event cannot be the main point at all since such information is presupposed (old information in the discourse).

Diagnostics:

(29)　Q: 你怎麼知道這件事?
　　　　'How did you know this affair?'
　　A: # 因為張三跟我說 (了) 這件事, 所以我很緊張。
　　　　# 張三跟我說 (了) 這件事之后, 我很緊張。
　　　　# 只有張三跟我說 (了) 這件事。

Compare: ✓張三跟我說??(了) 这件事。

Interim summary

- The event realization has to be the main point

  (30) 張三跟我說??(了) 这件事。

- The event realization is not (necessarily) the main point
    - Within certain subordinated clauses

      (31) a. 因為張三跟我說 (了) 這件事, 所以我很緊張。
           b. 張三跟我說 (了) 這件事之后, 我很緊張。

    - With narrow focus

      (32) 只有張三跟我說 (了) 這件事。

    - Embed another clause

      (33) 張三跟我說 (了) [今天特別熱]。

→ Why?

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a. The literal meaning of bare eventive sentences

Bare sentences (when allowed) are compatible with either progressive or perfective readings, depending on the context ('Neutral Aspect' in Smith 1997; Smith and Erbaugh 2005)

(34) 只有 張三 跟 我 說 这 件 事。
      only John to me tell this CL affair
      'Only [John]$_F$ <u>told</u> me this affair'

(35) 李四 打斷   了   跟 我 說 这 件 事   的 人。
      Lisi interrupt -PERF to me tell this CL affair DE person
      'Lisi interrupted the person who <u>was telling</u> me this affair.'

a. The literal meaning of bare eventive sentences

But the inference that (at least part of) the event is realized is an implicature instead of an entailment, since it is defeasible:

(36)   張三 跟 我 說 这 件 事,   突然   瑪麗 來   了,幸好   他 沒 開始 說。
       John to me tell this CL affair suddenly Mary come LE luckily he not start tell
       'John <u>was about to tell</u> me this affair, suddenly Mary came, luckily he hasn't started telling.'

(37)   張三 跑步,   突然   下雨 了,幸好   他 沒 開始 跑。
       John run suddenly rain LE luckily he not start run
       'John <u>was about to run</u>, suddenly it rained, luckily he hasn't started running.'

a. The literal meaning of bare eventive sentences

Such a pattern reminds us of the culmination inference with accomplishments in Salish languages (Bar-el et al. 2005):

(38) ts'áqw-an'-lhkan ta   n-kíks-a
      eat-TR-1SG.SU   DET SG.POSS-cake-DET
      'I ate my cake.'   (St'át'imcets)
      Native speaker's comments: "Sounds like you ate all of it."

But (38) can be continued with '... but I saved a little for tomorrow'

$\rightarrow$ The culmination inference is implicated in absence of contradictory information in the context.

Bar-el et al. (2005)'s proposal (informally): (38) is true iff some stage of the relevant event is realized in the actual world and the event is culminated in all *inertia* worlds (Dowty 1977, 1979):

- which are exactly like the actual world up to the end of the realized stage;
- in which the future course of events after this time develops in ways most compatible with the past course of events.

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a. The literal meaning of bare eventive sentences

Bare eventive sentences do not entail the realization of any part of the event:

(39) $[\![\text{MOD}[张三跟我說这件事}]\!] = \lambda w.\exists t[t \subseteq t_0 \wedge \forall w'[w' \in \text{INERT}(w,t) \rightarrow \exists e[\text{JOHN TELL ME THIS AFFAIR}(e,w') \wedge t \subseteq \tau(e,w')]]]$

in which INERT takes a world-time pair $\langle w, t \rangle$ and returns a set of inertia worlds relative to w up to t.

It asserts that for a contextually familiar time interval (t_0), there is a (partial) telling event during t ($\subseteq t_0$) in all inertia worlds relative to the actual world at t.

→ In absence of contradictory information, the hearer will assume that the world proceeds inertially and the event is realized.

b. The literal meaning of aspectually marked sentences

An aspectually marked sentence always entails the realization of at least some part of the event (not defeasible):

(40) 張三 {在} 跟 我 說 {了} 這 件 事, 突然 　瑪麗 來 　了,＃幸好 他
沒 開始 說。
John PROG to me tell -PERF this CL affair suddenly Mary come LE luckily he
not start tell
'John was telling me this affair, suddenly Mary came, #luckily he hasn't started telling.'

(41) 張三 {在} 跑 {了} 步, 突然 　下雨 了,＃幸好 他 沒 開始 跑。
John PROG run -PERF feet suddenly rain LE luckily he not start run
'John was running, suddenly it rained, #luckily he hasn't started running.'

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b. The literal meaning of aspectually marked sentences

(42) $[\![$張三跟了我說这件事$]\!]$ =
$\lambda w.\exists e[\text{LISI TELL ME THIS AFFAIR}(e, w) \wedge \tau(e, w) \subseteq t_0]$

(43) $[\![$張三在跟我說这件事$]\!]$ =
$\lambda w.\exists e[\text{LISI TELL ME THIS AFFAIR}(e, w) \wedge t_0 \subset \tau(e, w)]$

or more precisely:
$\lambda w.\exists e[\tau(e, w) \subseteq t_0 \wedge \forall w'[w' \in \text{INERT}(w, \tau(e, w)) \rightarrow \exists e'[\text{JOHN TELL ME THIS AFFAIR}(e', w') \wedge e \sqsubseteq e' \wedge t_0 \subset \tau(e, w')]]]$

(The topic time t_0 is supplied by a contextually familiar temporal interval)

c. Deriving the pattern

- When the occurrence of the event is addressing the QUD:

  (44) ?? 張三 跟 我 說 这 件 事。
          John to me tell this CL affair
        Int: 'John told me this affair'

  Gricean reasoning upon hearing (44):

  - The contextually salient alternative ''張三跟我了說这件事'' (= S'):
    1. It asymmetrically entails the uttered form (=S);
    2. It is relevant to the current purpose;
  - If the speaker knows that the telling event occurred, they should utter the stronger form S (by Maxim of Quantity, Maxim of Relation)
  - But the speaker uttered the aspectually unmarked version, which implicates they do not know whether the telling event occurred (Maxim of Quality)
  - → This blocks the potential enrichment that event is realized by assuming the world proceeds inertially.

c. Deriving the pattern

- When the occurrence of the event is not addressing the QUD,

  (45) 只有 張三 跟 我 說 這 件 事。
       only John to me tell this CL affair
       'Only [John]$_F$ <u>told</u> me this affair'

  (46) 李四 打斷　　了　　跟 我 說 這 件 事　 的 人。
       Lisi interrupt -PERF to me tell this CL affair DE person
       'Lisi interrupted the person who <u>was telling</u> me this affair.'

  - The stronger proposition expressed by S' is not relevant for the current purpose, thus no ignorance implicature is derived.
  - → In absence of contradictory information, the hearer assumes that the world proceeds inertially and the event is (partially) realized.

Outline

a. Capture the intuition 'Incomplete'

(47) ?? 昨天　　 張三 跟 我 說 这 件 事。
yesterday John to me tell this CL affair
Int: 'John told me this affair yesterday'
Native speaker's comments: 'And then? Sounds like you haven't finished your utterance...'

It reflects our reasoning about the speaker's intentions:

- If the (partial) realization of the telling event is the main point, then the bare form is not a good way to convey such information: the speaker should either use the aspectually marked forms or continue the sentence with elaboration about whether the event is realized or not.
- If the the (partial) realization of the telling event is *not* the main point, then we expect the hearer to continue it with another sentence that can potentially provide the main point.

b. Potentially unify different readings of bare sentences

The bare form of (eventive) predicates also has the other uses, which are often treated separately in the literature (Sun 2014).

(48) 張三 經常 跟 我 說 这 件 事。
John often to me tell this CL affair
'John often tells me about this affair'   (Generic/Habitual reading)

(49) 張三 明天 跟 我 說 這 件 事。
John tomorrow to me tell this CL affair
'John tells me about this affair tomorrow'   ('Scheduled' reading)

(50) ?? 昨天 張三 跟 我 說 这 件 事。
yesterday John to me tell this CL affair
Int: 'John told me this affair yesterday' ('Incomplete' episodic reading)

What is shared among three uses:

- Modal flavor ('If the world goes on a normal course, ...')
- Predetermination of future events on the basis of past events (e.g. habits/schedules/preparations).

c. Extend to the degree case of incompleteness

- The unstressed degree adverb 很 is needed for the positive reading of gradable adjectives (Gu 2008; Grano 2012; Liu 2010, 2018)

  (51) 張三??(很) 高。
        Int: 'John is tall'

- Similarly, this requirement is relaxed in certain environments:

  (52) 只有 [張三]$_F$ 高。(其他人都不高。) 'Only John$_F$ is tall'

  (53) 張三高嗎? 'Is John tall?'

  (54) 張三不高。'John is not tall'

  (55) 如果張三高的话，我找他做領隊。
        'If John is tall, I'll have him as the leader'

→ *hen* is optional when the QUD is whether John is tall or not, instead of other questions such as how tall John is ($\{d \mid tall(j, d)\}$).

Outline

Conclusions

A better understanding of the incompleteness phenomena in Chinese:

- Empirically: The need for aspect marking correlates with the QUD
- A novel pragmatic account that
  - derives this correlation
  - potentially unifies different readings of bare eventive predicates
  - potentially unifies the treatment for the temporal case and the degree case of incompleteness

For future research:

- sentence-final particles (which often provide temporal information)
- different discourse modes (narrative, description, ...)
- different degrees of 'incompleteness'
- ...

Thank you!

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Appendix

Is it possible that the apparent biclausal constructions are not regular embeddings but like the slifting constructions in English?

(56) 玛丽聽說约翰買了電腦。

(57) John bought a laptop, Mary heard.

Law (2008) shows that the pre-verbal adverb *daodi* 'really' in Chinese can be associated with a *wh*-phrase in a sentence iff it c-commands the *wh*-phrase and is in its local scope.

(58) 約翰 到底 買 了   什麼?
      John really buy -PERF what
      'What did John really buy?'   (Matrix question)

(59) 玛丽 {* 到底} 想   知道 约翰 {到底} 買 了   什麼。
      Mary   really want know John   really buy -PERF what
      'Mary want to know [what John really bought]'   (Embedded question)

(60) 玛丽 {到底} 聽說 约翰 {* 到底} 買 了   什麼?
      Mary really hear John really   buy -PERF what
      'What is the x such that Mary really heard that John bought x?'
      #'What did John really buy, Mary heard?'

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