Non-Future Tense in Mandarin Chinese: Evidence from Contradictory (Forward) Lifetime Effects

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Goals

- Present new experimental evidence and empirical observations to propose a non-future tense analysis of Chinese
- Bring together recent work on the Future/Non-Future tense distinction in Chinese
- Propose a typology of tense, and discuss some implications for the study of superficially “tenseless” languages
# Roadmap

- The debate: Tense Phrase in Chinese?
- A syntactic-semantic approach to Tense
- The Current Study: “Lifetime Effects”
  - Experimental evidence
  - Empirical observations
- Implications & Predictions
Temporal interpretation in Chinese

(1) Mary was studying.

(2) mali zai xue-xi.

Mary PROG study
‘Mary was/is studying.’

▪ An ever unsettled debate

▪ Established: no (past) tense morphology

▪ Question: Is there **syntactic tense**, with semantic features under a phonologically empty **T node**?
Tense in Chinese?

- Three proposals
  - Tenseless: no semantic features under a phonologically empty T node (J. W. Lin, 2006; Smith & Erbaugh, 2005; Grano, 2017)
  - Covert past tense (Sybesma, 2007)
    - Consequence: a non-past tense too?
  - Future/Non-Future tenses (Sun, 2014; Huang, 2015; Li 2016; Chen, 2017)
The tenseless analysis

- Tenseless (J. W. Lin, 2006, 2010)
  - There is no need to resort to a covert T node in Chinese
  - A purely aspectual system can account for temporal interpretations in this language:
    - Perfective aspect: $\lambda P_{<i,t>} \lambda t_{\text{Top}} \lambda t_0 \exists t \ [t \subseteq t_{\text{Top}} \land t_{\text{Top}} < t_0 \land P(t)]$
    - Imperfective aspect: $\lambda P_{<i,t>} \lambda t_{\text{Top}} \exists t \ [t_{\text{Top}} \subseteq t \land P(t)]$
    - \[
    \left[ \text{CP} \ldots [\text{IP} \ldots [\text{ModalP} \ldots [\text{AspP} \ldots [\text{VP} \ldots ]]]] \right]
    \]
The tenseless analysis (cont.)

- Problems:
  - Lin’s analysis does actually build in the semantic notion of **tense**.
  - There is little evidence *against* a T node.
  - Some of the arguments are committed to the error of taking the (phonologically empty version of) English past tense as the only model for Chinese tense.
  - Does it account for all temporal phenomena in Chinese?
Covert tense analyses

- Covert tense in Chinese:
  - The T node is not morpho-phonologically realized.
  - The finiteness property stems from the TP.
  - This TP may possess \([\pm \text{PAST}]\) or \([\pm \text{FUTURE}]\) features.
  - If there is syntactic tense……
  - What different predictions do these analyses make?
  - What evidence do we need?
Methodological notes

- Common approaches to Tense sometimes focus on either “syntactic tense” or “semantic tense”:
  - Structural evidence: Finiteness $\rightarrow$ T (T. H. Lin, 2015)
    - Insufficient; difficult to make a connection (Grano, 2017)
  - Semantically, tense encodes temporal relations
    - If semantic tense does not entail T, why not just call this syntactic position Arg/Infl/Case?
The most convincing argument must involve both syntactic and semantic evidence.

Direct Mapping Hypothesis (Matthewson, 2001, p.155)

“…… the null hypothesis is that in each language, the semantics transparently reflects the (surface) syntax.”

The current study pursues this hypothesis and uses semantic evidence to make syntactic claims about Chinese tense.

See Kratzer (2005) for a discussion about making a close connection between syntactic and semantic evidence.
Lifetime effects

- Lifetime effects refer to the inferences about the life/death of the individual in the subject position (Arche, 2006; Jäger, 2001; Magri, 2009; Musan, 1997; Roy, 2013; Thomas, 2012).

  - e.g. ‘Mary is from California’, ‘John was blue-eyed’

- Individual-level predicates impose restriction on the lifetime of their subjects.

- Clausal tense interacts with temporal information in the nominals.
Contradictory Lifetime Effects

- Contradictory lifetime effects (Mittwoch, 2008)

- *This house was built for Bill Stevens, the actor, who died last year. The one over there belonged to his brother, John Stevens, the property tycoon; he now lives in America.*

- Given the same context, no contradictory lifetime effects arise in the Chinese sentence:

  3) ta-men dou shi hen yingjun de nanren
     3PL both BE very handsome DE man
     ‘They both BE very handsome man.’
Experimental design

- **Purposes:**
  - To confirm judgements for contradictory lifetime effects in both English and Chinese.
  - To gain insights from the real-time processing of these sentences.

- **Conditions:**
  - Conjoin: one living and one dead individual
  - DeadDead: two dead individuals
  - LivingLiving: two living individuals
- A covert past tense analysis predicts that the TP, which may possess \([±\text{PAST}]\) features, should also lead to contradictory lifetime inferences in Chinese.

- This prediction is not borne out.
Self-paced reading: participants read sentences phrase-by-phrase at their own pace, pressing a button to get the next phrase displayed.

English and Chinese participants encountered similar reading time disruption on the same region.

Suggestive that Chinese is unlikely to be completely tenseless.
“Forward lifetime effects”

- A tenseless analysis fails to predict that what we call contradictory “forward lifetime effects” (Arche, 2006).

  Context: Holly, a British actress, will give birth to her first baby in New York. Her assistant, Georgia, had her baby in California last month.

(4) ta-men de haizi dou #shi meiguo gongmin
  3PL DE child both BE America citizen
Intended: ‘Their babies both BE American citizens.’

- No difference should be expected between (3) and (4) under a tenseless analysis. Instead, (4) suggests that the bare predicate may project a T node but with the [-FUTURE] value.
The non-future tense

- Recent research on Future/Non-Future in Chinese:
  - A phonologically null non-future tense in the bare predicates (Li, 2016; Sun, 2014).
  - A future tense morpheme *jiang* which projects a T node and alternates with the covert non-future morpheme (Huang, 2015).
  - These new analyses of Chinese as a superficially “tenseless” language are reminiscent of Matthewson’s (2006) observations in St’át’imcets (Salish).
The non-future tense

- Several predictions made in Matthewson’s (2006) proposal, which are further fleshed out by Mucha (2013), can be confirmed in Chinese:

  - Prediction #1: superficially tenseless sentences (STSs) can freely receive both past and present readings regardless of possible aspect marking.

(5) shi nian qian / rujin / #shi nian hou, ta shi yige yishujia
ten year ago / now / ten year later, 3SG BE one-CL artist
‘Ten year ago, (s)he was an artist.’ OR ‘Today, (s)he is an artist.’
The non-future tense (cont.)

- Prediction #2: If there is a covert, underspecified tense morpheme, STSs can refer to present and past events \textit{at the same time}.

(6) Suoxu’er he Qiaomusiji dou \textbf{shi} yuyanxuejia
Saussure and Chomsky both \textbf{BE} linguist
‘Saussure and Chomsky both \textbf{BE} linguists.’

- Prediction #3: Future time reference requires overt grammatical marking.

(7) shi nian hou, ta #(jiang)/(hui) \textbf{shi} yige yishujia
ten year later 3SG FUT / MOD \textbf{BE} one-CL artist
‘Ten years later, (s)he will become an artist.’
Conclusion

- The covert tense in Chinese bare predicates restricts possible reference times to the non-future, similar to the St’át’imcets tense morpheme.

- The feature of this covert tense is held in a Tense Phrase.

- Ongoing work with Nick Huang (Maryland) looking at both future and non-future tenses in Chinese.
Toward a typology of tense

- The morpho-syntactic features of tense can be schematized below: the time interval NOW has two boundaries, i.e. Past/Non-Past (as in English), Future/Non-Future (as in Chinese).

- Languages are sensitive to (at least) one boundary, and the relevant temporal features are held in a Tense Phrase.

- These features may be encoded overtly or covertly; some languages can lack the overt morpho-phonological marking of the values of these features.
Implications

- It remains a possibility that many Future/Non-Future languages have been misanalyzed as tenseless.

- From our typology:
  
  - Languages can be tenseless only superficially (i.e. in terms of morpho-phonological marking).
  
  - Tense is reserved as a universal category.
  
  - Binary feature distinction, with parametric choices to be made between either [±PAST] or [±FUTURE].
Predictions

- #1: Similar patterns for (forward) lifetime effects should be found in other superficially “tenseless” languages.
  - Covert non-future tense \(\rightarrow\) no contradictory lifetime effects, but “forward lifetime effects”

- #2: All “tenseless” languages can be alternatively analysed as possessing a covert tense (e.g. Tonhauser, 2011).

- #3: Impossible and improbable tenses
  - Present/Non-Present: the temporal reference of a tense cannot be separated by the \textit{NOW} interval, i.e. it must be “a continuity” (Comrie, 1985).
  - Three-way distinction: Unattested?
  - Incompatible with UG or just historical accidents?
Selected References


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