Two distinct Cantonese Sentence Particles

Additive vs. Mirative *tim*

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1 Introduction

The SFP *tim*

- The Cantonese sentence final particle *tim/添* has two different readings
  - an *additive* meaning close to *too, even or more* in English (depending on context):
    
    (1) Bob sīk pòuhnăm tim.
        Bob know Portuguese TIM
        Bob also/even knows Portuguese.

  - a *mirative* reading, often described as marking a form of unexpectedness:
    
    (2) Bob sēi-jò tim.
        Bob die-PFV TIM
        Bob (unexpectedly) died!

The talk in a nutshell

- Given the apparently distinct readings of *tim/添*, is it possible to give a unified analysis of the semantics of this particle?

- Previous work argue that it is possible [Lee & Pan 2010]

- We argue that is necessary to distinguish between two usages of the particle for:
  - Semantic reasons
  - Acoustic reasons
  - Syntactic reasons

- An analysis of each reading is given in a probabilistic framework
2 Previous analysis: a single tim

- A recent unified analysis of tim/添.

- Main claims:
  - tim/添 is a scalar additive
  - Like other elements of this class it conveys:
    * An existential presupposition
    * A scalar presupposition
  - It is distinct from other elements in this class (both in Cantonese and cross-linguistically) because:
    * It does not constrain the type of scale it associates with (e.g. unlike even in English).
    * It does not constrain the position of its associate on the scale (e.g. unlike oute and akomi ke in Greek).
    * It is not sensitive to polarity (unlike even).

Formalization

- Simplified version of (Lee & Pan, 2010, p. 1798–1799), let:
  - \( p \): the host of tim/添
  - \( x \): the associate of tim/添 (an NP, predicate or proposition)

- A sentence \( \text{tim}(p) \) is true iff \( p \) is true and triggers two presuppositions:
  - **Existential pp**: there must exist \( y \), an alternative to \( x \) which is also subject to the same predication as \( x \).
  - **Scalar presupposition**: the quantity of beer drunk by Bob is larger than the one drunk by John.

Example: degree scale

(3) John yám léuhng bui bējāu. Bob yám sāam bui tim.
John drink two beer Bob drink three TIM
John had two beers. Bob even had three.

- **Associate**: \( x \) = “three beers”
- **Existential psp**: there is a quantity \( y \) of beer/liquid that has been drunk, such that \( y \neq x \)
- **Scalar presupposition**: the quantity of beer drunk by Bob is larger than the one drunk by John.

Example: quantity scale

Bob know Portuguese TIM
Bob also knows Portuguese.

- **Associate**: \( x \) = Portuguese
- **Existential presupposition**: there has to be a language/skill \( y \) such that Bob masters it and \( y \neq x \)
- **Scalar presupposition**: set of languages/skills known by Bob is incremented.
2.1 Issues with the analysis

The proposed analysis has several issues.

1. **Antecedent and anaphora**: an antecedent is not always necessary when using *tim*/*添*/*添*, i.e. the analysis **under-generates**

2. **Triviality**: when the associate is of type *t*, even though its presuppositions can be trivially verified, *tim*/*添* is not always be usable, i.e. the analysis **over-generates**

**Semantics of *tim*/添: anaphora**

- English *too* has an anaphoric component, it is difficult to use it out of the blue when an antecedent is not salient [*Kripke* 2009]

(4) #John is having dinner in Hong Kong too.

- This is also true for some instances of *tim*/添:

(1) Bob sik houhmahn tim.
    Bob know Portuguese TIM
    Bob also knows Portuguese.

- However that does not hold for all cases: (5) can be used out of the blue in some contexts.

(5) Bob sikh-jó sāam wún faahn tim.
    Bob eat-PFV three bowls rice TIM
    Bob even had 3 bowls of rice

- This is even stronger with (2)

(2) Bob séi-jó tim.
    Bob die-PFV TIM
    Bob (unexpectedly) died!

**Issue 1**

The *existential presupposition* of *tim*/添 is not always verified, yet its use remains licensed.

**Triviality**

- When the associate of *tim*/添 is a full proposition, the activated scale is the likelihood/unexpectedness one.

⇒ As long as a “trivial” proposition has been made salient, the use of *tim*/添 should be licensed with a propositional associate. However:

    A-Mei in Hong-Kong born SFP she in Argentina study-EXP TIM
    (int.) A-Mei was born in HK. She studied in Argentina!

- The fact that A-Mei is born in HK is not unexpected/very likely
- The fact that she studied in Argentina is unexpected/very unlikely
- But [6] is not felicitous, even though the conditions of *tim*/添 are satisfied

⇒ **Issue 2**: There are additional constraints on the antecedent proposition.
3 Further arguments for two tim

Two tims?

- A unified approach to tim/_frontend_ raises some issues, because some aspects of its semantics appear difficult to unify (e.g. its existential presupposition).
- We argue that the two usages of tim/_frontend_ can be further distinguished based on:
  - Acoustic differences
  - Distribution differences

3.1 Acoustic differences

- *Goal:* test whether there is a difference in production of the additive tim/_frontend_ and the mirative tim/_frontend_.
- *Intuition:*
  - Additive tim/_frontend_ (1) is longer than the mirative tim/_frontend_ (2).

  (1) Bob sǐk  póuhmàhn tim.  
  Bob know Portuguese TIM  
  Bob also knows Portuguese.

  (2) Bob séi-jó  tim.  
  Bob die-PFV TIM  
  Bob (unexpectedly) died!

- This was tested in a production experiment.

Production experiment

*Objective* to test whether Cantonese speakers produce durational differences for the two /tim/ (long and short)

*Task*:
- Listen to an audio stimulus
- Read the rest of a dialogue

*Test Procedure*

- A single binary condition was tested
  - Additive Contexts (6 items)
  - Mirative Contexts (6 items)
- Two lists of items were produced. The sentences involving tim/_frontend_ were identical in both lists, but the preceding context changed, triggering either a mirative or additive reading of the particle.
- The items were shown on screen, using a latin-square design and pseudo randomization (IbexFarm platform)
Item Example

- **Additive context:** 你就好嫁人嘅。Néih jauh hóu là ga yahn lahk. *It’s so good for you that you’re getting married.*

- **Mirative context:** 份功課你做完未呀，等陣要交啦。Fahn gúng fo néih jauh yûhn meih a, dàng jahn yiu gâau la. *Have you finished your homework? We have to turn it in soon.*

- **Target:** 我仲諗住唔洗做添。Ngóh juhng nám jyuh mj séi jyoh tim. *I am/was counting on not having to work TIM.*

Participants

- Students of The Hong Kong Institute of Education
- 11 participants, 7 female
- Native speakers of Cantonese
- No hearing problems
- Age between 19-25, average: 22

Results

- Only the target utterances were analyzed (12 per participant)
- Target /tim/ utterances were analyzed on Praat and the duration of the rime of /tim/ was measured (vowel+coda).
- The effects of the condition were assessed using model reduction and maximum likelihood ratio test
  - there is a significant effect of the condition leading to longer production of the rime component of /tim/ in the additive contexts ($\chi^2=15.753$, p-value = 7.219e-05)

3.2 Distribution differences

Tim in SFP-clusters

- *tim/添* typically appears at the end of a sentence, but before other particles (Matthews & Yip 2011, p.395)
- More generally, there are distinct slots in the right periphery that allow different particles:
However, the two tim/添 occupy distinct positions in sfp-clusters:

- Additive tim/添 always come in first position in a sequence of SFP (7) and is compatible with question particles (8).

(7) kéuih ló-jó daih yāt mǐhn̄g tim ge la wo.
s/he take-PFV number one place TIM SFP SFP SFP
And s/he got first place too, you know.

(8) Bob s¯ik pòuhmàhn tim āh?
Bob know Portuguese TIM SFP
Bob also/even knows Portuguese?

- Mirative tim/添 has to be sentence final, is incompatible with question particles (9) and can be preceded by other sfp (10-b) (contra Matthews & Yip (2011)).

(9) #kéuih séi-jó tim āh?
s/he die-PFV TIM SFP
Did s/he die? (which would be unexpected)

(10) a. ngóh jeuigahn máahnmáahn sihk siuyé feih-jó hóudô
I recently every-night eat night-snacks gain-weight a lot
I recently put on a lot of weight because I eat snacks every night.

b. Haa, ngóh dòu sihungyalt gamyeh sihk siuyé ge tim.
EXCL I also all the time that-late eat night-snacks SFP TIM
I also eat a lot of night snacks (and I realize it might have bad consequences).

Taking stock: differences between tims

<table>
<thead>
<tr>
<th></th>
<th>tim/添 1</th>
<th>tim/添 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reading</td>
<td>Additive</td>
<td>Mirative</td>
</tr>
<tr>
<td>Anaphoric</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Realization</td>
<td>Long</td>
<td>Short</td>
</tr>
<tr>
<td>Syntax</td>
<td>First in a sequence of sfp</td>
<td>Sentence final</td>
</tr>
<tr>
<td>Questions</td>
<td>Compatible</td>
<td>Incompatible</td>
</tr>
</tbody>
</table>

4 Proposed analysis

Theoretical Framework

- Both versions of tim/添 are analyzed in an probabilistic argumentative framework

- Key relation: a proposition p argues for a conclusion C iff the assertion of p raises the degree of belief in C (written: rel(p, C) > 0)

- The framework allows for a fine-grained description of many discourse markers (Anscombe & Ducrot, 1983; Merin, 1999; Winterstein, 2010).
4.1 Additive tim

Additive tim

- Analysis close to the one proposed for *even/même* by Anscombe & Ducrot (1983, p. 57–67).

- Core description: additive *tim*/*添* indicates a *stronger argument* than its *antecedent* for some conclusion.

- Semantics of additive *tim*/*添*:
  - $p$: the host of *tim*/*添*
  - $x$: the associate of *tim*/*添*, $p = Q(x)$
  - $\mathfrak{A}(x)$: the set of alternatives of $x$

  **Existential Presupposition**: there must exist $y$, an alternative to $x$, subject to the same predication (modulo type-raising) $\exists p': p' = Q(y) \land y \in \mathfrak{A}(x)$

  **Argumentative constraint**: $p$ must be a better argument than its antecedent for some conclusion $C$. $\exists H : 0 < \text{rel}(p', H) < \text{rel}(p, H)$

- The argumentative approach solves the problems of over-generation mentioned previously (being more likely is not a sufficient condition to be an antecedent of *tim*/*添* anymore).

Additive tim: prediction

- Adversative connectives (e.g. *daahnhaih*) indicate that their conjuncts are in argumentative opposition.

  $\Rightarrow$ Additive *tim*/*添* should be incompatible with them.

  
  Intended A-Wai is very tall and good looking but very stupid TIM

- Mirative *tim*/*添* is compatible with *daahnhaih*:

  (12) Hóu a, *daahnhaih* ngaó daai-jó fahn *tim*.
  
  Good idea but I brought-PFV food TIM

4.2 Mirative tim

Mirative tim

- Mirative *tim*/*添* does not require an antecedent; it does not compare argumentative strength.

- It encodes a constraint on the high relevance of its host to its goal:

  **Arg. constraint** $P(H) \ll P(H|p)$, i.e. $\text{rel}(p, H) \gg 0$, where $H$ is the argumentative goal

- A high relevance can stem from:
  - The strength of the *causal link* between $p$ and $H$.
  - The *unexpectedness* of $p$: the more unexpected $p$ is, the more it can positively affect $H$ (keeping the causal link constant).

- The description only applies to declarative sentences (e.g. speakers do not entertain beliefs about questions).
Taking Stock

- We argue that we can and should distinguish between two \textit{tim}/添:
  - Different interpretations (additive/mirative)
  - Different semantic constraints (anaphoric or not)
  - Different acoustic realizations (long/short)
  - Different distributions (sentence final or not)

- This does not mean that their descriptions are entirely distinct, both have in common a constraint of high relevance, but their usage differ.

Bibliography


