

# Revisiting the tense semantics in perfective suffixes in Cantonese

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# Table of Contents

- 1 Introduction
- 2 Why bundling?
- 3 Undesirable predictions
- 4 What's next?
- 5 Remarks
- 6 Appendix

# Introduction

- In pursuit of a tenseless approach to temporal reference in Mandarin, Lin (2006) proposes to abandon covert semantic features under a tense node.
- Instead, Lin suggests to bundle the temporal component with aspectual markers.
- He proposes that Mandarin perfective markers, such as *-le* and *-guo*, incorporate past tense semantics (i.e., Reference Time < Speech Time).
- **The tense-aspect bundling approach** (Lin 2006, 2010)  
tense morphemes are bundled with aspect morphemes.  
i.e.,  $\llbracket \text{perfective aspect} \rrbracket = \lambda P_{\langle i, t \rangle} \lambda t_{\text{TOP}} \lambda \mathbf{t_0} \exists t [P(t) \wedge t \subseteq t_{\text{TOP}} \wedge \mathbf{t_{TOP}} < \mathbf{t_0}]$
- This represents the core meaning for null perfective, *-le*, and *guo*.

# Today's goal

- This talk reviews the motivations for such a bundling account.
- We will examine the Cantonese counterparts, namely, *-zo* and *-gwo*.
- We summarize the original motivation for a bundling account.
- We argue that such an account is not necessary, and even leads us to undesirable predictions.
- We maintain that perfective suffixes encode only an aspectual component, without a tense component.

# Today's goal

- By challenging the proposed semantics in perfective suffixes, we do not at the same time argue against a tenseless approach to temporal reference in Cantonese.
- Specifically, our conclusion does not necessarily lend support to recent covert tense approaches to temporal reference (Sun [2014](#); He [2020](#)).
  - i.e., there are covert tense morphemes (in addition to aspect morphemes) e.g. NON-FUT, PRES, PAST, etc.
- Instead, we cast doubts on the notion of **semantic tense** in languages without overt tense morphology.
  - What if tense does not exist in Cantonese?
- As an extension of Lin's *syntactically* tenseless account, we discuss the possibility of a *semantically* tenseless account.

# Table of Contents

- 1 Introduction
- 2 Why bundling?
- 3 Undesirable predictions
- 4 What's next?
- 5 Remarks
- 6 Appendix

# ① The perfective-past connection

- Sentences with **perfective** marking can only convey a past interpretation (Lin 2003, 2006; Sun 2014; He 2020).

- (1) a. ngo **daa-zo** laamkau  
       I play-PERF basketball  
       Past: 'I had played basketball.'
- b. ngo **zyu-gwo** hai Hoenggong  
       I live-EXP at Hong Kong  
       Past: 'I had lived in Hong Kong.'

# ① The perfective-past connection

- They are disallowed in the following “telephone context” (based on He 2020, p.55-56; see also Reis Silva and Matthewson 2007).
  - it forces a present reading, i.e., the RT overlapping with the ST

(2) Context: Your friend calls you on the phone and asks you to meet with her right now. You respond by saying I can't meet with you right now because...

a. ??Jigaa ngo daa-**zo** laamkau.

now I play-PERF basketball

‘Now I have played basketball.’

(activity)

b. ??Jigaa ngo tai-**gwo** one-bun syu.

now I read-PERF one-CL book

‘Now I have read a book.’

(accomplishment)



# The perfective-past connection

- Sentences with **imperfective** (e.g., progressive, durative) marking convey a default present reading, also compatible with a past reading.

(3) a. ngo **se-gan** jat-fung seon

I write-PROG one-CL letter

Present: 'I am writing a letter.'

Past: 'I was writing a letter.' (in reply to "What did you do **at 7am?**")

b. ngo **daai-zyu** hauzaau

I wear-DUR mask

Present: 'I am wearing a mask.'

Past: 'I was wearing a mask.'

(in reply to "Why no one recognized you **yesterday?**")

- There is no imperfective-present connection, as also noted by Lin.

# ① The perfective-past connection

- Summing up,

	Imperfectives	Perfectives
Present	✓ default	✗
Past	✓	✓ default

Table 1: Temporal reference of episodic sentences in Cantonese

- Lin derives the the perfective-past connection by bundling the past tense morpheme with the perfective markers.
- However, it can also be derived without resorting to tense semantics.

(For the present-past flexibility in imperfectives, see Appendix.)

# ① The perfective-past connection

- There is a cross-linguistic *present-perfective restriction* (Comrie 1976, a.o.).
  - A common explanation is that the speech time is too “short” to host a terminated, completed event (which lacks *subinterval property*).
  - Alternatively, following Ogiwara (2007), we suggest that
- (4) a. The speech event requires an overlapping state/event to hold true **throughout the speech time**.
- b. But this is impossible for a perfective state/event.
- There is no need to bundle tense with aspect.

## ② The back-shifted reading in complement clauses

- A complement clause can receive a back-shifted reading (Lin 2006).

- (5) a. Aafan waa Aaming bik-**gwo** jan duk jyujinhok  
 Aafan say Aaming force-EXP person study linguistics  
 'Aafan **said** that Aaming **had forced** others to study linguistics.'
- b. Aaming waa Aafan daa-**zo** laamkau  
 Aaming say Aafan play-PERF basketball  
 'Aaming **said** that Aafan **had played** basketball.'

- In a tense-aspect bundling approach, the reading can be derived by suggesting that the perfective aspects in both clauses bear past tense semantics.

## ② The back-shifted reading in complement clauses

- However, this again does not necessitate the need for tense semantics.
- In the sentences in (5), the simultaneous reading is unavailable i.e., the back-shifted reading is the only possible reading
  - The forcing event cannot overlap with the saying event in (5a);
  - The playing-basketball event cannot overlap with the saying event in (5b).
- This is parallel to the ban on present-perfective in matrix clauses.

## ② The back-shifted reading in complement clauses

- We extend the explanation suggested by Ogihara (2007) to attitude events:
- (6) a. The attitude event requires an overlapping state/event to hold true **throughout the attitude time**.
- b. But this is impossible for a perfective state/event.
- The back-shifted reading of a perfective complement clause is thus the only possible reading.
  - The reading can be derived without incorporating past tense in perfective markers.

## ② The back-shifted reading in complement clauses

- Note that if the complement clause is imperfective, a simultaneous reading obtains by default.

(7) Aaming waa Aafan **zyu** hai Hoenggong      *simultaneous, #back-shifted*  
 Aaming say Aafan live at Hong Kong  
 'Aaming **said** that Aafan **lived** in Hong Kong.'

### ③ Incompatibility with future modals

- In some cases, perfective markers are incompatible with the future modal.

(8) \*Aaming wui leihoi-**zo/-gwo** gongsi.                      based on Lin (2006, (28))  
 Aaming will leave-PERF/EXP office  
 Int.: 'Aaming will have left the office.'

- Lin attributes the incompatibility to a **type mismatch**.

- Recall the semantics of perfective aspect:

$$\llbracket \text{perfective aspect} \rrbracket = \lambda P_{\langle i, t \rangle} \lambda t_{\text{TOP}} \lambda \mathbf{t_0} \exists t [P(t) \wedge t \subseteq t_{\text{TOP}} \wedge \mathbf{t_{TOP}} < \mathbf{t_0}]$$

- Lin's proposed semantics for the future modal:

$$\llbracket \text{hui/wui} \rrbracket = \lambda P_{\langle i, t \rangle} \lambda t \lambda \mathbf{t_0} [P(t) \wedge \mathbf{t_0} < \mathbf{t}]$$

- Crucially, both of them are of type  $\langle \langle i, t \rangle, \langle i, t \rangle \rangle$ .



### ③ Incompatibility with future modals

- However, these appear to be exceptions.

- (9) Jausi        jan,        haanghaang-haa wui   leihoi-**zo**   mukbiu, wui pinlei-**zo**.  
 sometime person walk-HAA                willl leave-PERF goal        will deviate-PERF  
 ‘Sometimes, we walk and walk, and we will go further from the goal, will deviate.’
- (10) Batjip        ge        sihau, nei jatding wui heoi-**gwo** houdou go conference.  
 graduate MOD time you surely will go-EXP many CL conference  
 ‘You will have been to many conferences by the time you graduate.’

- A type mismatch explanation leaves no room to include these sentences.

# Table of Contents

- 1 Introduction
- 2 Why bundling?
- 3 Undesirable predictions
- 4 What's next?
- 5 Remarks
- 6 Appendix

# Undesirable predictions

- In this section, we specifically discuss *-zo* and set aside *-gwo*.
- We acknowledge that *-gwo* behaves differently from *-zo* in these cases.
- This may be because *-gwo* imposes an additional requirement that the target state do not hold at speech time/ a contextually salient time (Lin 2007).

# ① Embedding in certain clauses

- Some predicates that cannot take complements with a past reading (but compatible with a future reading).
- E.g., *gaiwak* 'plan', *daasyun* 'intend', *zeonbei* 'prepare', *kyutding* 'decide' etc. (cf. Type II complements in Huang (2022))

- (11) ngo daasyun/zeonbei/kyutding {*\*camjat*/<sup>OK</sup>*tingjat*} waan ni-bun syu.  
 I intend/prepare/decide yesterday/tomorrow return this-CL book  
 'I intend/am going/ decide to return the book \*yesterday/<sup>OK</sup>tomorrow.'

# ① Embedding in certain clauses

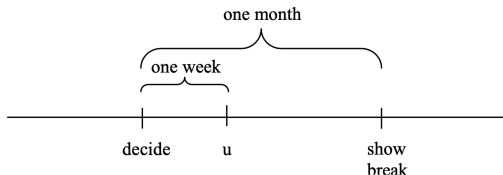
- However, perfective markers can appear in their complement clauses

(12) ngo daasyun/zeonbei/kyutding waan-**zo** ni-bun syu  
 I intend/prepare/decide return-PERF this-CL book  
 'I intend/am going/ decide to return this book.'

- This is unexpected if -zo is held responsible for the back-shifted reading due to its past tense component.
- A pure aspectual treatment to -zo avoids this issue.

## ② Future-shifted contexts

- First discussed in Rubinstein and Hashimoto (2010) with Mandarin data, they observe that *-le* fails to derive the back-shifted reading in future-shifted contexts (Abusch 1997; Ogihara 1995).
- We apply the same test to Cantonese.
- Context: Aaming is getting married, but the ceremony is so far away from home that even his mother cannot attend it. Aaming thought, at least he could provide a live satellite broadcast of the event.  
(Aaming is Jewish. Breaking a glass is a tradition in Jewish weddings.).



## ② Future-shifted contexts

- A back-shifted reading does not obtain with *-zo*.

(13) Aaming hai jatgosingkei-cin kyutding, keoi wui hai jatgojyut-hau ge  
 Aaming at one.week-ago decide he will at one.month-later MOD  
 zikbo dou, bei keoi maamaa taidou keoi daa-laan-**zo** go faazeon.  
 live.stream here let his mum see him break-PERF CL vase  
 'Aaming decided last week that he would let his mum see that he broke a vase at  
 the livestream next month.'

- <sup>OK</sup>Simultaneous: Aamings breaking the cup is during the broadcast
- <sup>??</sup>Back-shifted: Aamings breaking the cup is before the broadcast
- Note that the English tense deletion rule (Ogihara 1995) cannot be applied here, unless we allow the deletion to target a subpart of the meaning of *-zo*.

### ③ The ban on backtracking in narrative

- We provide an argument against tense semantics in *-zo* from temporal reference in narratives.
- There is a ban on backtracking in narratives (Anand and Toosarvandani 2018).
- Compare the use of past tense and narrative present

(14) Backtracking is disallowed in English *with narrative present*

a. *Past tense:*

Max fell. John pushed him.

fall → push *or* push → fall

b. *Narrative present:*

Max falls. John pushes him.

fall → push *only*



# Predictions

- An explanation to the contrast is developed based on the following constraint on **evaluation time shift** in the use of narrative present (Anand and Toosarvandani 2018).

(15) Constraint on evaluation time update in narratives  $\sigma_1 \sigma_2$

- The evaluation time in  $\sigma_2$  may be the speech time.
  - The shifted evaluation time in  $\sigma_2$  may not precede the time of the event in  $\sigma_1$ .
- Backtracking in narratives is thus indicative of the presence of tense
    - In a narrative, backtracking is allowed if there is a tense morpheme.
    - However, it is not allowed if evaluation time shift is in effect.

## No backtracking in narrative in Cantonese

- In the following Cantonese narrative, the only possible reading is one with temporal progression.

(16) Hai go-go si hau, Aaming dit-**zo**-lok      lautai. Aafan tui-**zo**  
 at that-CL time Aaming fall-PERF-down stair Aafan push-PERF  
 keoi jat-haa.  
 him once  
 'At that time, Aaming falls. Aafan pushes him once.'

- <sup>OK</sup>temporal progression: fall → push.  
 ??backtracking: push → fall
- The lack of backtracking reading is unexpected if -zo were to possess past tense semantics.

# Table of Contents

- 1 Introduction
- 2 Why bundling?
- 3 Undesirable predictions
- 4 What's next?**
- 5 Remarks
- 6 Appendix

# If there is no tense semantics in perfective suffixes...

- Possibility 1: tense is realized as independent (covert) morphemes (Sun 2014; He 2020).
- Possibility 2: there is no tense in Cantonese (cf. Pancheva and Zubizarreta 2021).
- By *no tense*, we mean there is no mechanism dedicated to introducing in the logical form **a reference time in relation to the evaluation time** for the clause.



# Table of Contents

- 1 Introduction
- 2 Why bundling?
- 3 Undesirable predictions
- 4 What's next?
- 5 Remarks**
- 6 Appendix

## Remarks

- A more elaborated version of the evaluation time shift approach to temporal reference in Cantonese is presented in Lee, Pancheva, and Zubizarreta (2022, [handout](#)).
- It represents an alternative to approaches that presuppose tense.
- It serves as a step further to a genuinely tenseless account, along the line of Lin (2006).
- If on the right track, it also implicates that tense is not a semantic universal.
- On-going investigation on ...
  - the analysis of *-gwo* (Lin 2007; Rubinstein and Hashimoto 2010; Chen et al. 2020)
  - the analysis of *-lai4*, *-laa3*, etc. (Lai 2014; Tang 2015)

# Table of Contents

- 1 Introduction
- 2 Why bundling?
- 3 Undesirable predictions
- 4 What's next?
- 5 Remarks
- 6 Appendix



# Expressing temporal meanings without tense

- Temporal meanings can be derived via **evaluation time shift**, in a way similar to the mechanism suggested for English narrative present.
  - In a **present** interpretation, the time of evaluation for matrix clauses (EvalT) is the speech time (ST).
  - In a **past** interpretation, the EvalT is a back-shifted time (preceding the ST).

(18) From Schiffrin (1981, (2e)-(2l)):

We just **pulled**<sub>ts</sub> into this lot [...] and all of a sudden the buzzer **sounds**<sub>tn</sub> [...] So we **asked**<sub>ts</sub> some guy to come over and help us. So he **opens**<sub>tn</sub> the car and everyone **gets**<sub>tn</sub> out except me and my girlfriend. We **were**<sub>ts</sub> in the front we just didn't feel like getting out. And all of a sudden all these **sparks**<sub>tn</sub> start to fly.

- The EvalT of these sentences in the narrative is not uniform:  
Some are evaluated w.r.t. the time of the speech context  $t_s$   
Some are evaluated w.r.t. the time of the narrative context  $t_n$

# Applying evaluation time shift to Cantonese

- As proposed for Paraguayan Gurani in Pancheva and Zubizarreta (2021), we suggest that a similar mechanism can be applied to Cantonese matrix sentences.
- Different from English, the application of such a backward evaluation time shift is **not restricted to narratives**.
- It is **possible in free-standing clauses**.
- Under this conception, there is no need to posit tense in Cantonese.

# Implementation

- Assume a bi-contextual evaluation approach (Schlenker 2004; Sharvit 2008; Pancheva and Zubizarreta 2021, a.o.)
- Two evaluation times are provided by two evaluation contexts: i.e., the actual **speech context**  $s$ , and **the narrative context**  $n$
- We assume that there is an indexical *pro* in the left periphery.
  - It is a time variable (of type  $i$ ), whose value is sensitive to different evaluation contexts
  - It saturates the time argument of the aspect phrase (of type  $\langle i, t \rangle$ )

(19) a.  $\llbracket pro \rrbracket^{s, n} = t_s$

b.  $\llbracket pro \rrbracket^{s, n} = t_n$ , where  $t_n < t_s$  (a back-shifted evaluation time)

(Strictly speaking, the EvalT is not “shifted” or overridden; but an additional, shifted EvalT is introduced.)

# Illustration

- To derive the **present-past flexibility** in and imperfective sentences,

(20) ngo **zyu** hai Hoenggong

I live at Hong Kong

(i) 'I live in Hong Kong.'

(ii) 'I lived in Hong Kong.' (in reply to "Where did you live **last year**?")

- (20) can be evaluated at the speech time, or at a back-shifted time (mediated by the *pro*).

(21)  $[_{CP} \textit{pro} \dots \lambda t \exists e [ \text{live-in-HK}(e)(\text{speaker}) \wedge \tau(e) \text{ AT } t \wedge (t \subseteq \text{now/last.year}) ] ]$

a.  $\llbracket (20i) \rrbracket^{s, n} = 1$  iff I live in Hong Kong AT  $t_s$  ( $\wedge t_s \subseteq t_s$ )

b.  $\llbracket (20ii) \rrbracket^{s, n} = 1$  iff I live in Hong Kong AT  $t_n$  ( $\wedge t_n \subseteq \text{the year before } t_s$ )

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