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A Modal Analysis of the Cantonese Particle *Gamzai*

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Abstract

This paper offers a novel analysis to account for the semantics of the adverbial approximator *gam3zai6*. New data are presented, illustrating that *gam3zai6* should be distinguished from its apparent scalar counterparts such as *almost* in English and *chabuduo* 'almost' in Mandarin Chinese. Building upon Portner's (1998) analysis of the progressive in English, we propose a modal analysis of *gam3zai6* as a prospective operator which creates an intensional context for the expressed event/state under the scope of prospectivity. We incorporate the temporal indication into the semantics of *gam3zai6*, enabling a unified account for the diverse interpretations of *gam3zai6*-sentences.

Keywords:

gamzai, Cantonese, modality, prospectivity, counterfactuality

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1 Introduction

This paper provides a modal analysis of the Cantonese particle *gam3zai6* 'be going to', arguing that it offers a more suitable solution compared to previous analyses (Tang 2006, 2009; Lee 2013, 2023; Cheng 2015). The paper aims to achieve two goals. First, we will examine the grammatical properties of *gam3zai6* and demonstrate that the semantics of *gam3zai6* is not merely a scalar approximator (cf. Tang 2006, 2009; Lee 2013, 2023; Cheng 2015). Second, building upon Portner's (1998) modal analysis of the progressive in English, we propose that *gam3zai6* is a prospective operator which creates an intensional context for the expressed event/state under the scope of prospectivity. This modal analysis provides a unified account for the diverse interpretations of *gam3zai6*-sentences.

Gam3zai6 has been treated as a scalar approximator in the existing literature (Tang 2006, 2009; Lee 2013, 2023;[1] Cheng 2015), patterning with *almost* in English and *chabuduo* 'almost' in Mandarin Chinese. As demonstrated in (1)–(3), *gam3zai6*-sentences encompass both dynamic and stative interpretations, whereas *almost* and *chabuduo* 'almost' exclusively convey stative meanings. In this context, we adopt Smith's (1999) definition to elucidate dynamic and stative readings. *Dynamic readings* are indicated by durative dynamic situations (Smith 1999: 408), which encompass initial, final, and internal intervals. The final interval signifies the conclusion of a situation, representing a distinct state compared to the preceding intervals. Therefore, the completion of a durative dynamic situation entails a change of state. In Smith's framework, verbs of accomplishment, such as *draw a circle*, exemplify durative dynamic situations (Smith 1999: 481). On the other hand, *stative readings* are associated with static situations that involve homogeneous intervals without temporal variations. Verbs of state, such as *love Mary*, and verbs of activity, such as *push a cart*, illustrate static situations (Smith 1999: 481). In (1)–(3), which feature a verb of accomplishment, the shared stative reading signifies the preparatory state of the event "the subject finishes his homework". The dynamic reading, which is only available for the *gam3zai6*-sentence in (3), conveys the ongoing progress of the event; that is, the event happens shortly.

(1) John almost finished writing his homework.

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[1] Lee's recent publication in 2023 extends the work of Lee 2013, building upon the findings and direction established in her earlier study. The updated study considers both *mat1zai6* and *gam3zai6* as scalar operators and explores their scalar and polarity interpretations within a scalar model. However, in this paper, we review Lee 2013 instead of Lee 2023, as the latter was published after we had submitted our manuscript in 2019, during the revision process. We thank the reviewers for bringing this newer reference to our attention. It is important to note that our proposal significantly differs from the previous analyses, as we approach *gam3zai6* as a prospective operator under the modal semantic analysis.

(2) Zhangsan chabuduo zuo-wan gongke le.
Zhangsan almost do-finish homework SFP[2]
'Zhangsan almost finished his homework.'

(3) Zoeng1saam1 zou6-saai3 gung1fo3 gam3zai6.
Zoeng1saam1 do-all homework GAMZAI
a. 'Zoeng1saam1 almost finished writing his homework.' (Stative reading)
b. 'Zoeng1saam1 is going to finish his homework.' (Dynamic reading)

A similar phenomenon occurs when *gam3zai6* is used in combination with stage-level predicates. Consider (4)–(6). The *almost*-sentence (4) and the *chabuduo*-sentence (5) only have the stative interpretation. However, the *gam3zai6*-sentence as in (6) is interpreted as having both the stative and dynamic readings.

(4) John is almost as tall as Jiu4ming4.

(5) Zhangsan he Yaoming chabuduo yiyang gao.
Zhangsan and Yaoming almost the.same tall
'Zhangsan is almost as tall as Yaoming.'

(6) Zoeng1saam1 tung4 Jiu4ming4 jat1joeng6 gou1 gam3zai6.
Zoeng1saam1 and Jiu4ming4 same tall GAMZAI
a. 'Zoeng1saam1 is almost as tall as Jiu4ming4.' (Stative reading)
b. 'Zoeng1saam1 is going to be as tall as Jiu4ming4.' (Dynamic reading)

The observation presented above demonstrates that *gam3zai6* behaves differently compared to the approximators, *almost* and *chabuduo*. This suggests that simply treating *gam3zai6* as a scalar approximator is unlikely to provide a comprehensive account of its semantic properties.

This paper is organized as follows. In Section 2, we review the previous studies on *gam3zai6*, viz. Tang 2006, 2009, Lee 2013, and Cheng 2015. In Section 3, we argue against these previous proposals and show that the semantics of *gam3zai6* is not simply a scalar approximator. In Section 4, we introduce Portner's (1998) modal analysis of the progressive in English, which forms the basis of our proposal. Building on this, in Section 5, we propose that *gam3zai6* is a prospective operator, the semantics of which encodes both prospectivity and temporal indication. We will show that our modal analysis provides a unified account for the various interpretations of *gam3zai6*-sentences in different contexts. Section 6 concludes this paper.

2 Previous studies on *gam3zai6*

There are four major studies on *gam3zai6*, including Tang 2006, 2009, Lee 2013, and Cheng 2015. We will review these four studies in this section.

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[2] Abbreviations used in this paper are listed as follows: CL = classifier; PERF = perfective; PROG = progressive; SFP = sentence-final particle.

2.1 Tang 2006, 2009

Tang (2006, 2009) proposes that *gam3zai6* functions as an approximative adverb. He suggests that *gam3zai6*, on the one hand, "indicates that the quantity or the degree expressed by the predicate is close to being fully realized" (Tang 2009: 233), while on the other, *gam3zai6* expresses "the process approaching the endpoint of the event" (Tang 2009: 227). In other words, Tang suggests that the semantics of *gam3zai6* encodes both the stative and prospective components.

Regarding the licensing conditions of *gam3zai6*, Tang proposes that it is subject to the telicity requirement. The telicity requirement can be satisfied by two conditions, namely (i) the telic nature of predicates and (ii) the existence of the subject's intentionality. As shown in (7), *gam3zai6* occurs with the accomplishment predicate, *gung1-jyun4* 'paid off', where the verbal suffix *jyun4* 'finish' indicates the natural endpoint of the event.

(7) Keoi5 gung1-jyun4 cang4 lau2 gam3zai6.
he afford-finish CL house GAMZAI
'He has almost paid off the loan for the flat.'
(Tang 2009: 234)

Gam3zai6 can also occur with achievement predicates, such as *jeng4* 'win' in (8), for the telic nature of the predicate.

(8) Keoi5 jeng4 gam3zai6.
he win GAMZAI
'He almost won.'
(Tang 2009: 234)

Regarding the second condition, Tang claims that covert intentional predicates can denote the subject's intention. For example, in (9), *gam3zai6* can co-occur with the atelic predicate *naau6* 'scold'.

(9) Lou5baan2 naau6 jan4 gam3zai6.
the.boss scold.at people GAMZAI
'The boss almost scolded us.'
(Tang 2009: 235)

According to Tang, the event *naau6 jan4* 'scold people' is considered a result state of the covert predicate *soeng2* 'want', which indicates the intention of the subject. In this sense, (9) can be paraphrased as (10).

(10) Lou5baan2 soeng2 naau6 jan4 gam3zai6.
the.boss want scold.at people GAMZAI
'The boss almost scolded us.'
(Tang 2009: 235)

Tang further extends the account of "the subject's intentionality" to explain the co-occurrence of *gam3zai6* and stative predicates, as illustrated in (11).

(11) Ngo5 zik6cing4 dong3 nei5 hing1dai6 gam3zai6.
I simply consider you brother GAMZAI
'I almost consider you my brother/buddy.'
(Tang 2009: 236)

According to Tang, the stative predicate *dong3* 'consider' in (11) denotes the intentionality of the subject. We can consider (11) as denoting the process in which the subject is progressively treating the patient in an increasingly better manner and ultimately as if getting along with his own brother. The result state is the one in which the subject regards the patient as his own brother, which is indicated by the predicate *hing1dai6* 'my brother/buddy'. In this sense, the *gam3zai6*-sentence (11), despite involving stative predicates, expresses the meaning of a change of state.

Similarly, in (12), the *gam3zai6*-sentence also contains a stative predicate, namely the nominal predicate s*ei3sap6 seoi3* 'forty years old', which is considered the presupposed endpoint. Thus, the meaning of a change of state emerges as "turning to forty years old".

(12) Keoi5 sei3sap6 seoi3 gam3zai6.
he forty year GAMZAI
'He is almost forty years old.'
(Tang 2009: 237)

Based on the above observations, Tang concludes that *gam3zai6* cannot occur with stative predicates when the subject's intentionality is absent, as shown in (13)–(15).

(13) *Keoi5 lek1 gam3zai6.
he smart GAMZAI
'He is almost smart.'
(Tang 2009: 235)

(14) *Keoi5 ci5 aa3baa4 gam3zai6.
he resemble father GAMZAI
'He almost resembles his father.'
(Tang 2009: 236)

(15) *Gam1jat6 sing1kei4luk6 gam3zai6.
today Saturday GAMZAI
'?Today is almost Saturday.'
(Tang 2009: 236)

Tang's proposal of the telicity requirement is further supported by the fact that *gam3zai6* cannot occur with the negation *m4* 'not', which negates a state or a habitual/generic property. However, when *gam3zai6* occurs with the negation *mou5* 'not', which negates an action, the resulting sentence is grammatical. See the contrast in (16).

(16) Keoi5 mou5/*m4 siu3 gam3zai6.
he not/not laugh GAMZAI
'He almost did not laugh.'/ *'He almost does not have a habit of laughing.'
(Tang 2009: 236)

2.2 Lee 2013

According to Lee (2013), *gam3zai6* is analyzed as a scalar approximator, on a par with *chabuduo* 'almost' in Mandarin Chinese and *almost* in English. In Lee's analysis, following Amaral (2010), the semantics of *gam3zai6* is contributed by the conjuncture of two components: a negative component that rejects the truth of the prejacent proposition and a positive component that indicates an alternative proposition, which is lower and close to the prejacent proposition on the scale, is true.

Gam3zai6 can appear in both positive and negative contexts. In positive contexts, the semantics of *gam3zai6* is yielded on a positive-oriented scale. Similar to Tang 2006, 2009, Lee proposes that an explicit telic point is required to license the use of *gam3zai6*. For example, in (17), the verbal suffix *jyun4* 'finish' indicates the telic point of the expressed event. The telic point is considered the explicit reference point, which marks the upper-bound of the scale.

(17) Ngo5 sik6-jyun4 wun2 faan6 gam3zai6.
I eat-finish CL rice GAMZAI
'I almost finished this bowl of rice.'
(Lee 2013: 415)

This aligns with the prediction that predicates lacking an explicit reference point are incompatible with *gam3zai6*. The *gam3zai6*-sentence in (18) is ungrammatical as the adjectival predicate *fei4* 'fat' does not provide an explicit reference point.

(18) ???Keoi5 hou2 fei4 gam3zai6.
he very fat GAMZAI
Intended: 'He is close to being very fat.'
(Lee 2013: 416)

Lee suggests that by adding an explicit reference point *hou2ci5 mou5 jiu1* 'as if he has no waist' to (18), the *gam3zai6*-sentence becomes grammatical. Refer to (19).

(19) Keoi5 fei4-dou3 hou2ci5 mou5 jiu1 gam3zai6.
he fat-arrive as.if not waist GAMZAI
'He is close to being as fat as a porpoise.'
(Lee 2013: 416)

Lastly, Lee points out that *gam3zai6* is a positive counterpart of *mat1zai6* 'not at all'. When *gam3zai6* appears in a negative context, as illustrated in (20), it expresses the same meaning as the *mat1zai6*-sentence in (21).

(20) Ngo5 mou5 tai2-gwo3 bun2 syu1 gam3zai6.
I not read-pass CL book GAMZAI
'I have almost not read this book.'
(Lee 2013: 416)

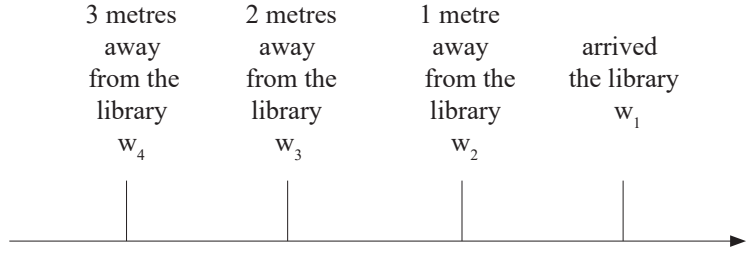
(21) Ngo5 mou5 tai2-gwo3 bun2 syu1 mat1zai6.
I not read-pass CL book MATZAI
'I have almost not read this book.'
(Lee 2013: 416)

2.3 Cheng 2015

Cheng's (2015) analysis of *gam3zai6* differs from the proposals of Tang (2006, 2009) and Lee (2013).[3] Cheng incorporates scalar analysis into a modal proposal (Broekhuis and Verkuyl 2014) and proposes that *gam3zai6* expresses a scale composed of possible worlds that represent different developmental stages of an event. Consider (22) and its scalar illustration in (23). In different possible worlds, the agent Zoeng1saam1 is at varying distances from the library, and these distances are arranged along the scale in descending order based on proximity to the library. In one of the possible worlds, namely w_1, Zoeng1saam1 arrives at the library.

(22) Zoeng1saam1 pauu2-dou3 tou4syu1gun2 gam3zai6.
Zoegn1saam1 run-arrive library GAZMAI
'Zoeng1saam1 almost arrived at the library.'[4]
(Cheng 2015: 211)

(23)



(Cheng 2015: 211)

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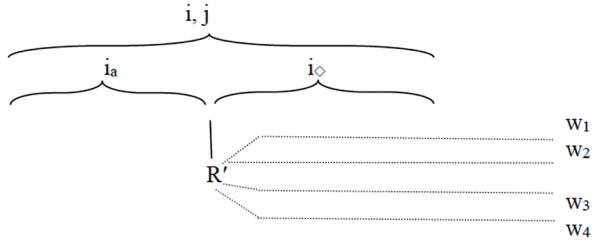
[3] Cheng (2015) agrees with Tang (2006, 2009) on the empirical observations of *gam3zai6* that *gam3zai6* requires predicates to encode a telic point which functions as the limit point/result state of the described event. While the eventive structure of activity predicates is composed of homogeneous states, Cheng explains their compatibility with *gam3zai6* as follows: following Tang, Cheng suggests that *gam3zai6*-sentences involving activity predicates encode the semantic BECOME-component, which transforms the (homogeneous) state denoted by activity predicates into the result state of the event.

[4] The examples cited from Cheng 2015 are translated by us since the original text is in Chinese. Example (22) is translated using the approximative adverb *almost*, as Cheng does not suggest that *gam3zai6* encodes the meaning of prospectivity.

Following Broekhuis and Verkuyl (2014), Cheng divides the temporal domain *i* into two subdomains: the current domain i_a in which events are actualized, and the posterior domain $i_\diamond$ in which events are not actualized. The two domains are divided by a reference point R' controlled by the speaker. Within the posterior domain $i_\diamond$, there is a set of possible worlds in which the proposition under discussion *p* is true in at least one of these possible worlds. See the graphic illustration below.

(24)



(Cheng 2015:211)

In the case of (22), *gam3zai6* yields a posterior interpretation. Given the reference point R', the proposition that "Zoeng1saam1 is *n* metres away from the library" is true in different possible worlds. Possible worlds w_2, w_3, and w_4, in which Zoeng1saam1 is 3 metres, 2 metres, and 1 metre respectively away from the library, are possibly "realizable". However, it is not possible to realize possible world w_1, in which the proposition "Zoeng1saam1 arrives at the library" is true. Under Cheng's analysis, the semantics of *gam3zai6* conveys (i) "being close to the result state" and (ii) "the result state is unrealized in the actual world".

Drawing on the decomposition structure of verbal predicates (Rappaport Hovav and Levin 1998), Cheng proposes that *gam3zai6* modifies the semantic component STATE and takes wide scope over it.

(25) [[x $ACT_{<manner>}$] CAUSE [BECOME [*gam3zai6* [y<STATE>]]]]
(Cheng 2015: 213)

3 Loose ends of previous proposals

3.1 Licensing conditions of *gam3zai6*

The previous proposals argue that the telicity requirement is essential to license *gam3zai6*. It can be satisfied in two ways: (i) the presence of the explicit telic point, which is denoted by telic eventive predicates (Tang 2006, 2009; Lee 2013), and (ii) the presence of the subject's intentionality, which conveys the meaning of inchoation (Tang 2006, 2009).

We agree with the first condition. However, the second condition, which requires the presence of the subject's intentionality, is not completely correct. Indeed, *gam3zai6* can appear in non-agentive constructions. For example, in (26), *gam3zai6* is compatible with the locative subject *gaan1 bou2zaap6se5* 'the

tutorial centre', which is non-agentive. The *gam3zai6*-sentence in this case can be interpreted as either the stative or the dynamic readings.

(26) Gaan1 bou2zaap6se5 jau5 saam1baak3 go3 hok6saang1 gam3zai6.
CL tutorial.centre have three.hundred CL student GAMZAI
a. 'The tutorial centre has almost three hundred students.' (Stative reading)
b. 'The tutorial centre is going to have three hundred students.' (Dynamic reading)

Another example that supports our proposal is that *gam3zai6* can appear in passive constructions, as demonstrated in (27). In this case, both the stative and the dynamic readings are available for the *gam3zai6*-sentence in (27).

(27) Zoeng1saam1 bei2 hok6haau6 tek3-ceot1-haau6 gam3zai6 lo3.
Zoeng1saam1 BEI school tick-out-school GAMZAI SFP
a. 'Zoeng1saam1 was almost expelled from the school.' (Stative reading)
b. 'Zoeng1saam1 is going to be expelled from the school.' (Dynamic reading)

In fact, *gam3zai6* cannot occur with individual-level predicates. Recalling the examples given in Tang 2006, 2009, the predicates incompatible with *gam3zai6* are individual-level predicates. They denote one's personal or permanent characteristics, such as *lek1* 'smart' in (13) and *ci5* 'resemble' in (14). The property of individual-level predicates is incompatible with the semantics of *gam3zai6*, which denotes either the state or the change of state of an event. The following examples further support our proposal.

(28) *Hung4 wui5 sik6 jan4 gam3zai6.
bear will eat human GAMZAI
Intended generic reading: 'Bears eat humans.'

(29) *Zoeng1saam1 tung1soeng4 sap6 dim2 fan3gaau3 gam3zai6.
Zoeng1saam1 usually ten clock sleep GAMZAI
Intended habitual reading: 'Zoeng1saam1 usually sleeps at ten o'clock.'

(30) *Zoeng1saam1 sik1 gong2 faat3man2 gam3zai6.
Zoeng1saam1 know speak French GAMZAI
Intended: 'Zoeng1saam1 knows how to speak French.'

Examples (28)–(30) are used to argue that telicity is required to license *gam3zai6*. The expressions in (28)–(30) respectively denote genericity, habituality, and an individual-level state of an individual, which conveys a permanent state and contains a homogenous state. In other words, for the expressions in (28)–(30), neither does the meaning of the sentence nor the nature of the predicates have a telic point for *gam3zai6* to make reference to.

On the other hand, the predicate in (15) denotes *gam1jat6 sing1kei4luk6* 'Today is Saturday'. As *gam3zai6* denotes either the state or the change of state of an event, it is incompatible with the assertion made in (15).

Based on the observations presented above, we conclude that the licensing conditions of *gam3zai6* are not dependent on the intentionality of the subject (cf. Tang 2006, 2009).

3.2 Differences between *gam3zai6* and *almost/chabuduo/caa1-m4-do1*

Gam3zai6 has been argued to function as a scalar approximator, on a par with *almost* and *chabuduo/caa1-m4-do1* (Lee 2013). The semantics of [*gam3zai6 p*], [*almost p*], and [*chabuduo p*] denote the preparatory state of the event. Based on this, Lee also proposes that *gam3zai6* is a positive counterpart of *mat1zai6*, another scalar approximator in Cantonese. We agree that *gam3zai6* can indicate the preparatory state of an event, which is evident when *gam3zai6*-sentences have a stative interpretation. However, a scalar analysis cannot fully capture the meaning of *gam3zai6*, and we argue that *gam3zai6* encodes the meaning of prospectivity. In this subsection, we will show that the semantics of *almost* and *chabuduo/caa1-m4-do1* differ from that of *gam3zai6*, and therefore, the scalar analysis alone is insufficient to fully account for the semantics of [*gam3zai6 p*].

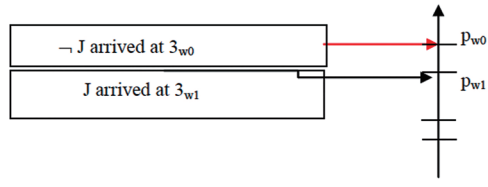
(A) Semantics of *almost*

Greenberg and Ronen (2013) propose a possible world analysis as a means to capture the counterfactual reading denoted by *almost*. Consider (31).

(31) John almost arrived at 3.
(Greenberg and Ronen 2013: 57)

On the one hand, the *almost*-sentence can be interpreted as 'John's arrival time is close to 3'. On the other hand, it can also be interpreted as 'John arrived at 3 in some possible world'. The second interpretation is the counterfactual reading. Look at the illustration in (32) (from Greenberg and Ronen 2013: 57).

(32)



According to Greenberg and Ronen (2013), along the scale of worlds, "John arrived at 3" is true in some possible world w_1, which is the world that is the most similar to the actual world w_0. However, in the actual word w_0, "John arrived at 3" is false. This yields the counterfactual reading.

We argue that Greenberg and Ronen's analysis is insufficient to fully explain the semantics of *gam3zai6*, as their analysis fails to capture the meaning of inchoation and prospectivity that *gam3zai6* denotes.

(B) Semantics of *chabuduo/caa1-m4-do1*

In terms of predicate selections, *chabuduo/caa1-m4-do1* shares many similarities with *gam3zai6*, but they are not entirely identical. On the one hand, both *chabuduo/caa1-m4-do1* and *gam3zai6* are incompatible with individual-

level predicates, generic denotations, and the progressive aspect.[5] This can be illustrated in (33)–(35).

Individual-level predicates

(33) a. *Zhangsan chabuduo congming. (MC)[6]
Zhangsan almost smart
b. *Zoeng1saam1 caa1-m4-do1 lek1. (CN)[7]
Zoeng1saam1 almost smart

Generic denotations

(34) a. *Xiong chabuduo hui chi ren. (MC)
bear almost will eat human.beings
b. *Hung4 caa1-m4-do1 wui5 sik6 jan4 (CN)
bear almost will eat human.beings

Progressive aspect

(35) a. *Zhangsan chabuduo zai kan shu. (MC)
Zhangsan almost PROG read book
b. *Zoeng1saam1 caa1-m4-do1 duk6-gan2 syu1. (CN)
Zoeng1saam1 almost read-PROG book

On the other hand, the expressions *chabuduo* and *caa1-m4-do1* are not compatible with stage-level predicates and activity predicates (Chang 2003; Cheng 2015). Chang (2003) suggests that the addition of the perfective marker le_2, which evokes an initial point on stage-level predicates and initiates a new situation (also see Shen 2004 on the inchoativity of le_2), is necessary to make the *chabuduo*-sentences grammatical. A similar strategy can be employed in *caa1-m4-do1*-sentences by adding the Cantonese marker *laa1*.[8] Consider the contrasts below.

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5 *Gam3zai6* is incompatible with the progressive aspect *hai2-dou6* 'being', as in (i).
(i) *Zoeng1saam1 hai2-dou6 tai2 syu1 gam3zai6.
Zoeng1saam1 be-here read book GAMZAI

6 Abbreviation of Mandarin Chinese.

7 Abbreviation of Cantonese.

8 Tang (2013) proposes that the meaning of the Cantonese sentence-final particle *laa* varies when it bears different tones, namely the mid-level tone *laa33* and the high-level tone *laa55*. The mid-level tone *laa33* is associated with either the content domain or the epistemic domain, while the high-level tone *laa55* is associated with the speech-act domain. Tang suggests that *laa* patterns with le_2 in Mandarin Chinese, regarding the association of the content-epistemic-speech-act domains. According to Xiao and Shen (2009), the core meaning of le_2, no matter which domain it is associated with, expresses the emergence of a new state. While Tang does not explicitly claim that *laa* also has this meaning, he patterns the behavior of *laa* with le_2, assuming that the two particles share this core meaning.

Stage-level predicates

(36) Ta chabuduo e *(le$_2$). (MC)
he almost hungry LE
'He is almost hungry.'
(Chang 2003: 103)

(37) Keoi5 caa1-m4-do1 ngo6 *(laa1). (CN)
he almost hungry LAA
'He is almost hungry.'

Activity predicates

(38) Ta chabuduo ku *(le$_2$). (MC)
he almost cry LE
'He almost cried.'

(39) Keoi5 caa1-m4-do1 haam3 *(laa1). (CN)
he almost cry LAA
'He almost cried.'
(Cheng 2015: 194)

Similarly, when *chabuduo* occurs with achievement predicates, the resulting sentence sounds marginal. By adding *le$_2$*, the sentence sounds more natural, as shown in (40).

(40) Zhangsan chabuduo ying */??(le$_2$). (Achievement predicate)
Zhangsan almost win LE
'Zhangsan almost won.'

In addition, *chabuduo* and *caa1-m4-do1* can occur with accomplishment predicates and stage-level predicates. However, in such cases, only the stative reading is possible, as seen in (41)–(44). Importantly, the addition of *le$_2$/laa1* does not change the picture.

Accomplishment predicates

(41) a. Zhangsan chabuduo da-po-le huaping (le$_2$).
Zhangsan almost hit-break-PERF vase LE
'Zhangsan almost broke the vase.'
b. Zoeng1saam1 caa1-m4-do1 daa2-laan6-zo2 go3 faa1zeon1 (laa1).
Zoeng1saam1 almost hit-break-PERF CL vase LAA
'Zoeng1saam1 almost broke the vase.'

(42) a. Zhangsan chabuduo ku-shi-le shoupa (le$_2$).
Zhangsan almost cry-wet-PERF handkerchief LE
'Zhangsan almost cried the handkerchief wet.'
b. Zoeng1saam1 caa1-m4-do1 haam3-sap1-zo2 tiu4 sau2gan1 (laa1).
Zoeng1saam1 almost cry-wet-PERF CL handkerchief LAA
'Zoeng1saam1 almost cried the handkerchief wet.'

Stage-level predicates

(43) a. Zhe jian buxiban chabuduo you yibai ge xuesheng (le_2).
this CL tutorial.centre almost have one.hundred CL student LE
'This tutorial centre has almost one hundred students.'
b. Gaan1 bou2zaap6se5 caa1-m4-do1 jau5 saam1baak3 go3
CL tutorial.centre almost have three.hundred CL
hok6saang1 (laa1).
student LAA
'The tutorial centre has almost three hundred students.'

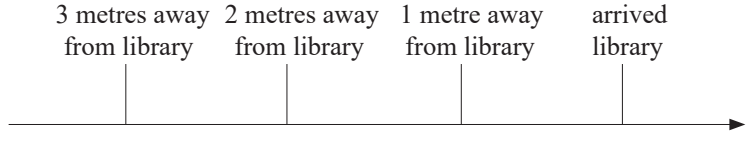
(44) a. Zhangsan he Yaoming chabuduo yiyang gao (le_2).
Zhangsan and Yaoming almost same tall LE
'Zhangsan is almost as tall as Yaoming.'
b. Zoeng1saam1 caa1-m4-do1 tung4 Jiu4ming4 jat1joeng6
Zoeng1saam1 almost and Jiu4ming4 same
gou1 (laa1).
tall LAA
'Zoeng1saam1 is almost as tall as Jiu4ming4.'

The above observations show that *chabuduo* is different from *gam3zai6*. While *chabuduo*-sentences denote only the stative readings, *gam3zai6*-sentences demonstrate ambiguity, allowing both stative and dynamic readings.

Cheng (2015) also suggests that *caa1-m4-do1* behaves distinctly from *gam3zai6*. *Caa1-m4-do1* is best analyzed as an approximative adverb which indicates the closest stage to the result state[9] along the timeline. The scale is constructed to show different developmental stages of the described event that lead to the result state. In (45), *caa1-m4-do1* modifies the preparatory state of the event, namely *Zoeng1saam1 paau2-dou3 tou4syu1-gun2* 'Zoeng1saam1 arrives at the library', and (46) illustrates the meaning of (45) using a scalar diagram.

(45) Zoeng1saam1 caa1-m4-do1 paau2-dou3 tou4syu1gun2.
Zoeng1saam1 almost run-arrive library
'Zoeng1saam1 almost arrives at the library (by running).'
(Cheng 2015: 196)

(46)



(revised Cheng 2015: 200)

9 The explanation "the closest stage to the result state" used in Cheng 2015 is similar to the meaning of "the preparatory state of the event". We use the latter phrase in the rest of the paper.

Given that *caa1-m4-do1* is only compatible with dynamic predicates, Cheng suggests that *caa1-m4-do1* modifies the BECOME-component in the decomposition structure of verbal predicates, as illustrated in (47). This gives rise to the sense of "looking forward", rather than a counterfactual interpretation.

(47) [([x $ACT_{<manner>}$]) (CAUSE) [***caa1-m4-do1*** [BECOME [y <*STATE*>]]]]
(Cheng 2015: 215)

Compared with *chabuduo* and *caa1-m4-do1*, *gam3zai6* has a more flexible co-occurrence principle on predicates. As discussed in previous sections, *gam3zai6* alone can occur with activity, accomplishment, achievement, and stage-level predicates. It appears that *gam3zai6* not only indicates the preparatory state of the event, but also encodes the semantics of inchoativity.

The above discussion leads to the conclusion that *gam3zai6* is not simply a scalar approximator. A scalar analysis alone is insufficient to fully capture the semantics of *gam3zai6*. Cheng's (2015) incorporation of scalar analysis and possible world semantics shows that further extension and refinement of previous analytical approaches is required.

Building upon this conclusion, *gam3zai6* cannot be considered a positive counterpart of *mat1zai6* either. According to Lee (2013), the interpretations of the *gam3zai6*-sentence and *mat1zai6*-sentence are the same under negation contexts, as illustrated in (48) and (49), corresponding to (20) and (21).

(48) Ngo5 mou5 tai2-gwo3 bun2 syu1 gam3zai6.
I not read-pass CL book GAMZAI
'I have almost not read this book.'
(Lee 2013: 416)

(49) Ngo5 mou5 tai2-gwo3 bun2 syu1 mat1zai6.
I not read-pass CL book MATZAI
'I barely read this book.'
(Lee 2013: 416)

Lee claims that both the *gam3zai6*-sentence (48) and *mat1zai6*-sentence (49) denote closeness to a state where the subject did not read the book. However, when *gam3zai6* is used with another negator *m4* 'not', the interpretations of the *gam3zai6* and *mat1zai6* sentences differ, as reflected in the contrasts between (50) and (51). The *gam3zai6*-sentence in (50) exhibits ambiguity between stative and dynamic readings, whereas the *mat1zai6*-sentence is interpreted as conveying only the stative reading.

(50) Zoeng1saam1 m4 siu3 gam3zai6.
Zoeng1saam1 not laugh GAMZAI
a. 'Zoeng1saam1 barely laughs.' (Stative reading)
b. 'Zoeng1saam1 is going to lose his smile (in the near future).' (Dynamic reading)

(51) Zoeng1saam1 m4 siu3 mat1zai6.
Zoeng1saam1 not laugh MATZAI
'Zoeng1saam1 barely laughs.' (Stative reading)

In addition, when *gam3zai6* occurs with *m4* 'not' and accomplishment predicates, the *gam3zai6*-sentence exhibits an interpretation that falls between dynamic and counterfactual readings. Consider (52).

(52) Zoeng1saam1 zou6-m4-saai3 fan6 gyun2 gam3zai6.
Zoeng1saam1 do-not-all CL exam.paper GAMZAI
a. 'Zoeng1saam1 is going to fail to finish the exam paper.' (Dynamic reading)
b. 'Zoeng1saam1 almost failed to finish the exam paper (but, in fact, he finished it).' (Counterfactual reading)

In the counterfactual interpretation, the speaker conveys the knowledge that Zoeng1saam1 was once on the verge of failing to finish the exam paper, but ultimately completed all the questions by the time. This interpretation takes the speech time as the reference time, with the event time preceding the speech time, resulting in a counterfactual reading. On the other hand, the dynamic *gam3zai6*-sentence denotes an imperfective reading: if we consider the speech time as the reference time, then the reference time is included in the event time. Back to the case of the *mat1zai6*-sentence, as (53), it denotes the stative reading only.

(53) Zoeng1saam1 zou6-m4-saai3 fan6 gyun2 mat1zai6.
Zoeng1saam1 do-not-all CL exam.paper MATZAI
'Zoeng1saam1 can barely finish the exam paper.' (Stative reading)

In short, *gam3zai6* cannot be considered a positive counterpart of *mat1zai6*. Treating *gam3zai6* solely as an approximative adverb is insufficient to fully capture its semantics. We, therefore, propose a modal analysis to account for the semantics of *gam3zai6*.

3.3 Cheng's analysis

There are several similarities between Cheng's analysis and the current analysis. First, both analyses employ possible world semantics to account for the irrealis interpretation of *gam3zai6*-sentences. Second, the function of the reference point R' proposed by Cheng bears resemblance to that of the time of speaker's evaluation T@ in our analysis. Both R' and T@ are not restricted to the tense. Instead, they are the reference points that the speaker makes reference to when evaluating the possibilities of events happening in the immediate future relative to R'/ T@. Both Cheng and the current analysis suggest that *gam3zai6*-sentences can be interpreted in past, present, and future tenses. Third, both analyses suggest that *gam3zai6*-sentences encode the meaning of inchoativity or a change of state. Cheng proposes that *gam3zai6* requires predicates to encode a BECOME-component which contributes to the meaning of inchoativity, and *gam3zai6* is the

modifier of the result state. The current analysis suggests that the semantics of *gam3zai6* is a prospective operator PROS. With T@ as the reference point, the speaker believes that the completion of the described event is true in the best worlds. This yields the meaning of inchoativity as at T@ the event has not yet been completed, but it is completed in the best worlds that are yielded after T@.

Nevertheless, we believe that the current analysis optimizes Cheng's proposal. While we agree that there is no harm in incorporating scalar analysis with possible world semantics, there are several issues that are not clearly explained.

First, we disagree that possible worlds introduced after R' involve worlds (w_2, w_3, and w_4) in which **the proposition *p*** expressing the preparatory state of the event is true. Such a proposition *p* is true at the time of R' or at times before R'. The possible world (w_1) in which **the proposition *q*** expressing the completion of the event is true is the one yielded after R'. Furthermore, Cheng claims that only w_2, w_3, and w_4 are possibly "realizable", whereas w_1 is not. It is not evident to us what "realizable" exactly means. We assume that the "realizable" worlds are those in which the proposition *p* is true and happened in the actual world. The worlds in which the proposition *q* is true would not be considered realizable (i.e. w_1). However, this claim is invalid when considering prospective *gam3zai6*-sentences in the past tense. Given (54) in the past context, T@ is "last year in May", and the event is "Aafan gives birth to her baby". Informally, at T@, Aafan was in the preparatory stage of the giving-birth event. Assuming that everything went smoothly in Aafan's life, the giving-birth event happened in some immediate future time relative to T@. In this case, the completion of the giving-birth event is true in the best worlds at some time after T@, and those worlds are, indeed, "realizable".

(54) Gau6nin2 ng5jyut6, Aa3fan1 saang1-dak1 gam3zai6.
last.year May Aa3fan1 give.birth-be.able.to GAMZAI
'Last year in May, Aa3fan1 was going to have a baby.'

Second, we provide the lexical entry for *gam3zai6* which clearly illustrates its semantics. Despite the meaning of inchoativity, the semantics of *gam3zai6* requires an ordering source which shows that from the speaker's perspective and at the reference point T@, the occurrence of the event is true in the best worlds.

Third, there is no harm in calling *gam3zai6* an approximator, but this does not fully capture the meaning of *gam3zai6*. We argue that *gam3zai6* not only indicates the preparatory state of the event but also functions as a prospective operator that quantifies future-oriented worlds.

4 A modal analysis of the progressive

Before delving into our own proposal, we shall provide a brief review of Portner's (1998) modal account of the progressive in English, which we adopt in our analysis of *gam3zai6*. Portner (1998), building on Dowty 1977, 1979 and Landman 1992,

proposes a modal treatment of the progressive in English, which functions as a modal operator in the standard semantics of modality with a sensitivity to events. The central idea of Portner's (1998) proposal is detailed in Section 4.1, while the relation between the progressive and the counterfactual is discussed in Section 4.2.

4.1 The central idea of Portner's (1998) account

Portner (1998) argues that the progressive can be analyzed in terms of modal semantics that works with two parameters of interpretation, namely the modal base and the ordering source (see Kratzer 1977, 1981, 1991). He also incorporates reference to events into the modal account of the progressive, in which the modal base is sensitive to the event and the way the event is described. According to Portner, the modal base of the progressive is a set of accessible worlds, in which certain circumstances relevant to the completion of the event hold. In this sense, the modal base is circumstantial and thus contextually determined. The accessible worlds are ranked by the ordering source, which is a set of propositions including various obstacles to the completion of the event. The ordering source orders the accessible worlds based on the obstacles they contain. The fewer obstacles the worlds have, the better the worlds are considered. The best worlds have no obstacle for the normal course of the event. For the sake of discussion, let us consider a concrete example in (55).

(55) At 7 o'clock, Mary was climbing Mount Toby.
(Portner 1998: 772)

The modal base M(w) contains the circumstances which are relevant to the completion of the climbing event, as illustrated in (56).

(56) M(w) = {'Mary is in good physical condition', 'Mary does not give up easily', 'It was raining lightly on Mount Toby at 7 o'clock', 'Mary was one third of the way up the Mount Toby trail at 7 o'clock', 'Mary was headed the right way on the trail at 7 o'clock', …}
(Portner 1998: 772)

These worlds are ordered by the ordering source with respect to how few interruptions exist, as in (57).

(57) O(w) = {'Mary does not get eaten by a bear', 'Mary does not slip and hurt her ankle', 'A surprise summer blizzard does not start on Mount Toby', 'Mary does not get lost', …}
(Portner 1998: 773)

The modal base (56) and the ordering source (57) together comprise the best worlds – the accessible worlds without any interruptions to the event. The progressive sentence (55) is true because in all such worlds, Mary climbs Mount Toby.

In discussing the determination of the appropriate modal base, furthermore, Portner (1998) argues that the identity of the modal base depends on both the

event's intrinsic nature and the event description formed by the VP under the scope of the progressive operator. Examples (58) and (59) are used to illustrate how the modal base is determined.

(58) Max was crossing the street.
(Portner 1998: 766)

(59) Max was walking into the path of an oncoming bus.
(Portner 1998: 779)

These two progressive sentences describe the same event from different perspectives on Max's actions. Suppose that in the real world, Max did not cross the street because he was hit by a bus. According to Portner, (58) and (59) are evaluated relative to distinct modal bases, one without the fact pertaining to the bus and the other with the fact that the bus was coming down the street, since the modal base function is sensitive not only to the event but also to its property. The best worlds for (58) and (59) to be true are therefore dissimilar.

Portner's (1998) analysis of the progressive is well presented in the formalization in (60), in which Circ stands for the modal base function, NI the ordering source function, *e* the event in question, and P the property of the event.

(60) a. Best(Circ, NI, e, P) = the set of worlds w' in ∩Circ(e, P) such that there is no w'' in ∩Circ(e, P) where w'' $<_{NI,e}$ w'.
b. PROG(e, P) is true at a world w iff for all worlds w' in BEST(Circ, NI, e, P), there is an event e' which includes e as a nonfinal subpart, such that P(w')(e') is true.
(Portner 1998: 782)

4.2 The relevance of counterfactuals to the progressive

Portner's (1998) theory utilizing a modal base and an ordering source can naturally explain the relation between the progressive and the counterfactual. Recall that the fact pertaining to the progressive sentence in (58), *Max was crossing the street*, is that Max failed to cross the street due to being struck by a bus. According to Portner, (58) is true because in all of the worlds compatible with the modal base for Max's crossing event, which are ranked as the best according to the ordering source, Max successfully crossed the street. The modal base includes the circumstances relevant to Max's crossing event, such as Max's abilities, the conditions of the street, etc., while the ordering source includes propositions like "Max isn't hit by a bus". These two parameters determine the best worlds entailing that Max crossed the street. Contrary to the fact, (58) is true upon the best worlds. The progressive (58) is then evaluated in the same world as the counterfactual (61), which is a modal sentence, and (61) must also be interpreted with respect to the modal base and the ordering source (see Kratzer 1981, 1991 for the analysis of counterfactuals).

(61) If Max hadn't been hit by a bus, he would have crossed the street.
(Portner 1998: 784)

Under Portner's (1998) account of the progressive, the relevance of counterfactuals to the progressive is wholly unsurprising.

5 The proposal: *Gam3zai6* as a prospective operator

We propose that the basic meaning of *gam3zai6* is prospectivity. Prospectivity is classified as aspectual and is related to the speaker's viewpoint on the internal structure of an event. According to Binnick (2006) and Comrie (1976), the notion of prospectivity expresses that based on the current circumstances, the speaker anticipates an event that will be realized in the near future. However, the aspectual account fails to explain the semantics of *gam3zai6*, as the *gam3zai6*-sentences can have both dynamic (i.e. prospective) and stative interpretations.

To give a unified analysis, we, therefore, follow Portner (1998) and propose that *gam3zai6* is a prospective operator, akin to the progressive operator, which creates an intensional context for the expressed event. In addition, we incorporate the temporal indication into the semantics of the progressive, thereby yielding the semantics of the prospective, specifically *gam3zai6* in our case. Given that the cases discussed in Portner 1998 are all past events (i.e. the progressive under the past tense), and that prospectivity expresses the speaker's prediction about the imminent realization of the expressed event based on current situations, we argue that a temporal component is necessary in the semantics of *gam3zai6*. We refer to it as T@, the time of the speaker's evaluation, as shown in the formalization (62) in an interval semantics framework.

(62) a. Best(Circ, NI, e, P) = the set of worlds w' in ∩Circ(e, P) such that there is no w'' in ∩Circ(e, P) where w'' $<_{NI,e}$ w'.

b. PROS(e, P) is true at <i, w> iff for some event e, T@(e) = i and for all worlds w' in BEST(Circ, NI, e, P), there is an event e' such that T(e') = i' and i is a nonfinal subinterval of i' and P(<i', w'>)(e') is true.

Notice that T@ is not necessarily equivalent to the speech time, although it is in the default setting. When we take the matrix tense into account, T@ is equal to the speech time under the present tense, whereas it is not under the past tense. This contrast can be illustrated by the logical forms in (63).

(63) a. ∃e[PRESENT(e) & PROS(e, P)]

b. ∃e[PAST(e) & PROS(e, P)]

In our analysis, the diverse interpretations of *gam3zai6*-sentences can be well explained. In the following subsections, we demonstrate how our proposal accounts for the data on *gam3zai6*.

5.1 *Gam3zai6*-sentences with the dynamic interpretation

Let us begin with some examples of the dynamic interpretation. Consider (7), repeated as (64).

(64) Keoi5 gung1-jyun4 cang4 lau2 gam3zai6.
he afford-finish CL house GAMZAI
'He is going to pay off the loan for the flat.'[10]
(Tang 2009: 234)

In (64), *gam3zai6* occurs with an accomplishment predicate *gung1-jyun4 cang4 lau2* 'pay off the loan for the flat'. The circumstantial modal base for (64) might appear as follows:

(65) Circ(e, P) = {'The subject has the ability to earn money', 'The subject pays the housing loans on time every month', 'The subject gets the same amount of salary every month', …}

These are the facts relevant to the completion of the paying event. In addition, the ordering source, viewed as the set of outside factors asserting that this paying event does not get interrupted, could be something like the following:

(66) NI(e) = {'The subject isn't fired by his boss', 'The company which the subject is working for isn't wound up', 'The subject doesn't lose all his savings because of the fall in the stock market', ...}

The circumstantial modal base (65) and the ordering source (66) collectively comprise the best worlds. According to our proposal in (62b), the sentence in (64) will be true at <i, w> if and only if there is an event going on during i in w which, if uninterrupted, will become an event in which the subject pays off the loan for the flat.

Our analysis is also applicable to *gam3zai6*-sentences with other types of eventive predicates, such as activity predicates. Consider (9), repeated as (67).

(67) Lou5baan2 naau6 jan4 gam3zai6.
the.boss scold.at people GAMZAI
'The boss is going to scold us.'
(Tang 2009: 235)

Suppose that the circumstantial modal base for (67) includes propositions describing the disposition of the boss, such as {'The boss is a bad-tempered person', 'The boss gets angry very easily', 'The boss always fails to control his temper', …}. The ordering source could be a set of factors that prompts the boss to scold people, for example, {'The employees do not perform well', 'The company that the boss owns is losing money', …}. Given the modal base, the best worlds according to the ordering source will be those in which the boss scolds his employees, and thus, (67) is true.

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[10] The original translation of the *gam3zai6*-sentence (64) is 'He has almost paid off the loan for the flat' (Tang 2009: 234). However, we suggest that the interpretation of (64) should be best articulated with the dynamic reading 'He is going to pay off the loan for the flat'. A similar revision is applied in (67) and (68).

Consider another example in which *gam3zai6* occurs with an achievement predicate, as shown in (8), repeated as (68).

(68) Keoi5 jeng4 gam3zai6.
he win GAMZAI
'He is going to win.'
(Tang 2009: 234)

The eventuality described in (68) is a complex event, such as a running race. Similar to the previous cases, the circumstantial modal base for (68) contains all the facts pertaining to the race, for instance, {'The subject remains in first position', 'The subject runs at speed *n*', 'Another contestant is in second position', 'Another contestant runs at speed *n*′', …}. The ordering source for (68) contains the set of propositions expressing that the course of the race does not suddenly change, such as {'Other contestants do not suddenly increase their speeds', 'The subject does not twist his ankle', ...}. Therefore, at the time of evaluation, (68) is true because in the best worlds determined by the modal base and the ordering source, the event extends into a situation in which the subject wins the running race.

5.2 The stative sentences with *gam3zai6*

As we have discussed previously, a stative sentence with *gam3zai6* can have both the dynamic (i.e. prospective) and the stative reading. Consider (6), repeated as (69).

(69) Zoeng1saam1 tung4 Jiu4ming4 jat1joeng6 gou1 gam3zai6.
Zoeng1saam1 and Jiu4ming4 the.same tall GAMZAI
a. 'Zoeng1saam1 is going to be as tall as Jiu4ming4.' (Dynamic reading)
b. 'Zoeng1saam1 is almost as tall as Jiu4ming4.' (Stative reading)

Both interpretations of (69) can be explained in the same way as the cases in Section 5.1. Drawing on Portner's (1998) discussion on the determination of the modal base, we argue that the distinguishing factor between the two interpretations of (69) lies in the different modal bases used to derive them.

Let us first consider the dynamic reading (69a). The modal base for (69a), which includes propositions representing Zoeng1saam1's and Jiu4ming4's physical conditions as well as their intrinsic properties, might be something shown in (70).

(70) Circ(e, P) = {'Zoeng1saam1 is an adolescent in the normal course of growth', 'Zoeng1saam1 is 2.21m tall', 'Zoeng1saam1 loves to play basketball', 'Zoeng1saam1 plays basketball every day', 'Jiu4ming4 is a full-grown adult', 'Jiu4ming4 is 2.26m tall', …}

With this modal base, the best worlds according to the ordering source NI(e), which includes propositions like {'Zoeng1saam1 does not have a heart disease', 'Zoeng1saam1 does not get hit by a car and break his leg', …}, will be those in which Zoeng1saam1 becomes as tall as Jiu4ming4 if there is no interruption in the course of Zoeng1saam1's growth. Therefore, (69a) is true at the time of

evaluation because in all of the worlds compatible with the modal base in (70) where nothing stops Zoeng1saam1 from growing taller, Zoeng1saam1 becomes as tall as Jiu4ming4.

Now let us consider the stative reading in (69b). The possibility of the stative reading seems to pose a challenge to the status of *gam3zai6* as a prospective operator. However, this apparent problem can be resolved by the theory of modality. The modal base for (69b) includes facts pertaining to Zoeng1saam1's and Jiu4ming4's physical conditions and their intrinsic properties. Let us assume that the modal base is constructed as in (71).

(71) Circ(e, P) = {'Zoeng1saam1 is a full-grown adult', 'Zoeng1saam1 is 2.21m tall', 'Zoeng1saam1 loves to play basketball', 'Zoeng1saam1 plays basketball every day', 'Jiu4ming4 is a full-grown adult', 'Jiu4ming4 is 2.26m tall', …}

The reality based on (71) is that Zoeng1saam1 is still 5cm shorter than Jiu4ming4 and is unlikely to become as tall as Jiu4ming4 because he is already a full-grown adult. However, (69b) is predicted to be true because in all the worlds compatible with the modal base (71) that are ideal with respect to NI(e), Zoeng1saam1 could be as tall as Jiu4ming4.

It can be assumed that the two interpretations of (69) share the same logical form, as shown in (72).

(72) ∃e[PRESENT(e) & *Gam3zai6*(e, P)]

The ambiguity in this case lies in the differing modal bases in (70) and (71), specifically, the intrinsic details about Zoeng1saam1. Both (69a) and (69b) are true because we evaluate them against these two modal bases, which involve a subtle difference. Therefore, an ambiguous stative sentence with *gam3zai6* like (69) can be easily treated under a modal account without any additional assumptions.

The stative *gam3zai6*-sentences mentioned in Tang 2006, 2009 can also be explained in a similar way. Consider (11), repeated as (73). Suppose Zoeng1saam1 and Lei5sei3 are not siblings, but he treats Lei5sei3 as if Lei5sei3 were his biological brother. In this scenario, Zoeng1saam1 said to Lei5sei3:

(73) Ngo5 zik6cing4 dong3 nei5 hing1dai6 gam3zai6.
I simply consider you brother GAMZAI
'I almost consider you my brother/buddy.'
(Tang 2009: 236)

The modal base for (73) contains facts concerning Zoeng1saam1 and Lei5sei3, for example, {'Zoeng1saam1 treats his siblings very well', 'Lei5sei3 resembles Zoeng1saam1's younger brother in appearance', 'Zoeng1saam1 likes Lei5sei3 very much', …}, and the ordering source includes propositions such as "Zoeng1saam1 and Lei5sei3 do not have any disagreement on their work", "Lei5sei3 does not

deceive Zoeng1saam1 in any way", etc. In the best worlds composed of the modal base and the ordering source, Zoeng1saam1 regards Lei5sei3 as his own brother since they always get along well with each other and nothing wrecks their friendship, and thus (73) is true. Note that in the actual world, Zoeng1saam1 and Lei5sei3 are not and will never become biological brothers.

In summary, the stative reading that a stative *gam3zai6*-sentence receives gives rise to an interpretation that contradicts the present facts. This counterfactual interpretation is handled in the same way as the dynamic prospective reading. Whether a stative *gam3zai6*-sentence receives a prospective or a counterfactual construal depends on the precise nature of the modal base that is contextually determined. The ambiguity of stative *gam3zai6*-sentences is therefore attributed to the identity of the modal base.

5.3 More on the counterfactual interpretation

Here we would like to devote more discussion to the cases where *gam3zai6* occurs with eventive predicates in past contexts. The eventive sentences with *gam3zai6*, when used in present contexts, express prospectivity, meaning that the speaker predicts the given event will be realized soon based on current situations; however, when they are used to describe the events in past contexts, the prospective meaning becomes counterfactual. The counterfactual interpretation arises because the speaker's evaluation of these sentences is based on the circumstances pertaining to the events happening at a time prior to the speech time, that is, the prospective under the past tense. This then suggests that the eventive *gam3zai6*-sentences, whether they receive a prospective or a counterfactual construal, are evaluated in the same world. What distinguishes between them lies in the time of the speaker's evaluation. This divergence can be captured by the logical forms given in (63), repeated as (74) with the prospective operator being marked with *gam3zai6*.

(74) a. ∃e[PRESENT(e) & *Gam3zai6*(e, P)]
b. ∃e[PAST(e) & *Gam3zai6*(e, P)]

The following examples illustrate (74b), which represents the cases where eventive sentences with *gam3zai6* used in past contexts receive a counterfactual construal. Consider (75) and (76). In past contexts like (75), only the counterfactual reading in (76b) is possible.

(75) *Suppose that Zoeng1saam1 and Lei5sei3 were in a boxing competition. Lei5sei3 was seriously injured and sent to the hospital at 5pm. The doctor came out of the surgery room at 10pm. He said that Lei5sei3 was saved but:*

(76) Zoeng1saam1 daa2-sei2 Lei5sei3 gam3zai6.
Zoeng1saam1 hit-dead Lei5sei3 GAMZAI
a. 'Zoeng1saam1 is going to kill Lei5sei3 by beating.' (Dynamic reading)
b. 'Zoeng1saam1 almost killed Lei5sei3 by beating (but in fact, he did not).' (Counterfactual reading)

The modal base for (76) contains the relevant circumstances about the boxing competition, particularly Zoeng1saam1's and Lei5sei3's physical conditions. The ordering source contains the set of propositions expressing that the event does not get interrupted. The sentence (76) (with the dynamic prospective reading) is true at the time of the speaker's evaluation because in all of the worlds compatible with the modal base and ideal with respect to the ordering source, Zoeng1saam1 kills Lei5sei3 by beating. When the speaker's evaluation of (76) is anchored to a time prior to the speech time, the counterfactual reading, viz. (76b) arises, as in reality Lei5sei3 is not dead when (76) is uttered. In this case, (76) is still predicted to be true because it is evaluated in all the best worlds determined by the modal base and the ordering source, in which if the event had not been interrupted, it would have extended into a situation where Zoeng1saam1 kills Lei5sei3 by beating him.

Let us consider another example, in which a negator is involved in an eventive *gam3zai6*-sentence; see (78). Again, in the scenario (77), only the counterfactual reading of (78) is possible.

(77) *Suppose that Zoeng1saam1 had to hand in the exam paper at 4pm. At 3:45, he still had 2 pages left. However, Zoeng1saam1 did finish all the tasks at 4pm and handed it in on time. Lei5sei3 witnessed the whole story and told his friends that:*

(78) Zoeng1saam1 zou6-m4-jyun4 fan6 gyun2 gam3zai6.
Zoeng1saam1 do-not-finish CL exam.paper GAMZAI
a. 'Zoeng1saam1 is going to fail to finish the exam.' (Dynamic reading)
b. 'Zoeng1saam1 almost failed to finish the exam (but in fact, he did not).' (Counterfactual reading)

In (78), *gam3zai6* takes wide scope over the negator. The modal base then includes the facts about the event (i.e. Zoeng1saam1 is working on the exam) and the way in which it is described by the VP, such as "Zoeng1saam1 is a slow reader and writer", "The exam paper contains many difficult tasks", etc. The ordering source includes propositions representing possible factors that assert nothing changes the normal course of the event, such as "Zoeng1saam1 does not cheat in the exam". Sentence (78) holds true at the time of the speaker's evaluation because in all the best worlds determined by the modal base and the ordering source, the event extends into a situation where Zoeng1saam1 fails to finish the exam. If the evaluation time is anchored before the speech time, (78) will receive the counterfactual construal, as shown in (78b). This is because the normal course of the event is that Zoeng1saam1 should have ultimately failed, contrary to the actual outcome.

From the above discussion, we can see that similar to the progressive, the relevance between the prospective sentence (i.e. *gam3zai6*-sentences) and the counterfactual also obtains even though the former has ambiguous interpretations.

6 Conclusion

In this paper, we have examined the grammatical properties of *gam3zai6* in Cantonese. We have argued that treating *gam3zai6* simply as a scalar approximator does not fully capture its semantics (Tang 2006, 2009; Lee 2013, 2023). We propose that *gam3zai6* is a prospective operator which not only indicates the preparatory state of the event, but also expresses prospectivity. Following Portner's (1998) modal analysis of the English progressive, we give a similar semantic account of the prospective *gam3zai6*-sentence in terms of the theory of modality that works with two familiar parameters of interpretation, the modal base and the ordering source. The modal base is contextually determined and sensitive to the event described by the sentence; it is then defined as Circ(e, P), containing a set of circumstances relevant to the event's completion. The ordering source, defined as NI(e), encodes the idea that the given event is not interrupted. The modal base and the ordering source comprise the best worlds in which the sentence in question is evaluated. In addition, we have proposed that the time of the speaker's evaluation is encoded in the semantics of *gam3zai6*. By taking this temporal component into account, we can then account for eventive *gam3zai6*-sentences used both in present and past contexts, which receive dynamic prospective and counterfactual interpretation, respectively. The ambiguity of stative *gam3zai6*-sentences can also be treated under this modal account, with resort to the precise identity of the modal base. The advantage of applying a modal analysis to *gam3zai6* is that, whether the interpretations of *gam3zai6*-sentences are dynamic (or prospective) or stative (or counterfactual), they can all be tackled under a unified analysis.

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粵語助詞“咁滯”的模態分析

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提要

本文探討粵語約量助詞“咁滯”的語義，並針對“咁滯”語句的歧義提出一致性的分析。新的語料證據顯示，“咁滯”有別於其他被視作對應詞的約量副詞，如英語的 almost 和漢語的“差不多”。我們以 Portner（1998）對英語進行體的分析為基礎，提出一個模態分析，將“咁滯”視為一個展望體（prospective aspect）運符，能夠在表即將義的展望體範域內為命題所表達的事件或狀態創造一個內涵語境（intensional context）。我們將時間標記（temporal indication）納入“咁滯”的語義中，從而為“咁滯”語句的多樣解讀提供了統一的解釋。

關鍵詞

咁滯，粵語，模態，展望體，違實性