

# Temporal Reference in Vietnamese

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# Introduction

# Phenomenon

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**Tense** Center of a large body of literature focusing on temporal reference.

**Tenseless** Many languages:

- Kalaallisut (Bittner 2005)
- Lillooet (Matthewson 2006)
- Mandarin (Lin 2006)
- Guarani (Tonhauser 2011)
- Hausa (Mucha 2013)

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- No overt grammaticalized expressions that impose constraints on the temporal relation between the Reference Time and the Utterance Time (Matthewson 2006).
- Contribute to the literature on temporal reference
  - Present detailed theoretical analyses
  - Determine how tenseless languages are similar and how they may vary from one another.

# Goal

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- Investigate how temporal reference is determined in Vietnamese
  - Bare verb predicates
  - Preverbal aspectual particles
  - Their interaction with one another
- Advance understanding of cross-linguistic variation on the semantics of tense and aspect

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A 3-way distinction (Reichenbach 1947):

**Utterance Time** The time at which the sentence is uttered

**Reference Time** The time about which the claim is made

**Event Time** The time for which the predicate holds of the subject

# Tense

Tense provides information about the location of the RT and its relation to the UT (Klein 1994):

**Past Tense** The RT precedes the UT ( $RT < UT$ )

- (1) At the time of the conference, Zheng **was** in Budapest.

**Present Tense** The RT surrounds the UT ( $UT \subseteq RT$ )

- (2) At the time of the conference, Zheng **is** in Budapest.

**Future Tense** The RT follows the UT ( $UT < RT$ )

- (3) At the time of the conference, Zheng **will be** in Budapest.



# Viewpoint Aspect

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Aspect contributes information regarding the relationship between the ET and the RT (Klein 1994):

**Imperfective Aspect** The ET surrounds the RT ( $RT \subseteq ET$ )

- (4) When Ethan was in the kitchen, Jon Ander **was making** a sandwich.

**Perfective Aspect** The RT surrounds the ET ( $ET \subseteq RT$ )

- (5) When Ethan was in the kitchen, Jon Ander **made** a sandwich.

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# Bare Verb Predicates

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- Verbs are not overtly marked with tense info.
- No obligatory grammaticalized expressions that impose constraints on the temporal relation between the RT and the UT (Matthewson 2006).

# Bare Verb Predicates

Out of the blue, bare verb sentences are only compatible with past and present time adverbials, but not future time adverbials:

- (6) a. Hom qua Becky **day** **Ngon ngu hoc.**  
yesterday Becky teach Linguistics  
'Becky taught Linguistics yesterday.'
- b. Bay gio Becky **day** **Ngon ngu hoc.**  
now Becky teach Linguistics  
'Becky teaches Linguistics now.'
- c. #Nam sau Becky **day** **Ngon ngu hoc.**  
year after Becky teach Linguistics  
(*Intended*: 'I will teach Linguistics next year.')

# Preverbal Particles

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- Future eventualities can only be described when the preverbal particle *se* appears in the sentence:

- (7) a. Nam sau Becky **se** lam gi?  
year after Becky **SE** do what  
'What will you do next year?'
- b. Becky **se** day Ngon ngu hoc.  
Becky **SE** teach Linguistics  
'Becky will teach Linguistics.'

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- Vietnamese verbs can also be marked for aspect.
- Clauses containing the preverbal particle *dang* are compatible with progressive aspectual reference, where the ET properly contains the RT.

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SITUATION: Jon Ander began making his sandwich at 2 PM. At 2:10, Ethan went into the kitchen to get a knife. At 2:15, Ethan walked out of the kitchen with his knife, and Jon Ander was still in the middle of making his sandwich.

- (8) Luc Ethan o trong bep, Jon Ander **dang**  
When Ethan locate in kitchen Jon Ander PROG  
lam banh mi.  
make sandwich  
'When Ethan was in the kitchen, Jon Ander was making a sandwich.'

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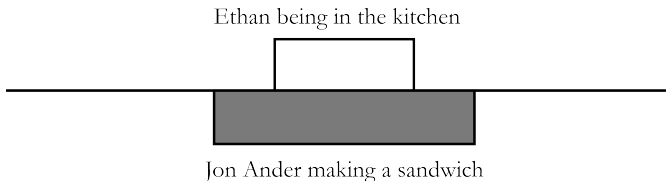
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- *Dang* places the time of Ethan being in the kitchen inside the time of Jon Ander making a sandwich.



- This sentence is then consistent with the sandwich-making still continuing at present, and thus it is true for the given situation.



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- On the other hand, when the verbs are not marked with any overt aspectual marking, the viewpoint aspect can be interpreted as perfective.

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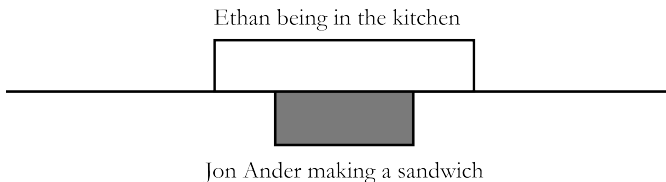
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SITUATION: Ethan was in the kitchen from 2 PM to 3 PM. At 2:10, Jon Ander walked into the kitchen to make a sandwich. At 2:15, he walked out of the kitchen with his freshly made sandwich.

- (9) Luc Ethan o trong bep, Jon Ander Ø  
When Ethan locate in kitchen Jon Ander PFV  
lam banh mi.  
make sandwich  
'When Ethan was in the kitchen, Jon Ander made a sandwich.'

- Compared to (8), (9) has the reversed inclusion between the ET and the RT, where the time of the sandwich-making is placed inside the time of Ethan being in the kitchen.



- This clause with no marking entails that the sandwich-making does not continue into the present, and thus it is true for the given situation.

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# Overview

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Duffied (1999, 2007):

- Vietnamese expresses assertion independently of tense or aspect.
- 3 functional categories above VP in Vietnamese:
  - Topic Phrase
  - Tense Phrase
  - Assertion Phrase

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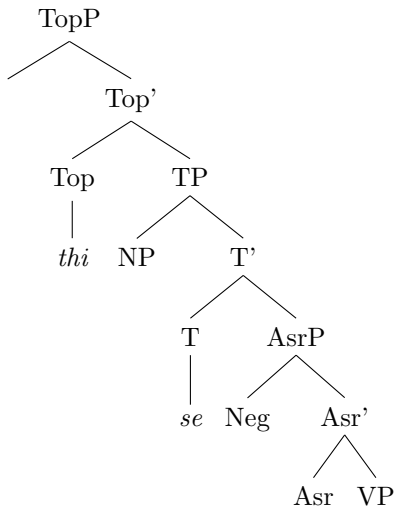
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- Tense marking in Vietnamese is “almost always” optional, which contrasts with the obligatory presence of tense morphology in English.
  - *se* = Future tense
- This claim is based on the fixed position of *se* in matrix clauses.
  - *Se* directly follows the subject.
  - *Se* precedes the sentential negation *khong*.

# Reasoning

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- Since *se* is argued to be a future tense morpheme in this account, *se* imposes a precedence relation between the UT and the RT.
- This explains why *se* appears to play a role in excluding the *se* past and present time reference from the matrix clauses.
  - Clauses containing *se* are true in situation denoting a future time eventuality.



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# Non-future Interpretation

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- Duffield did not account for the fact that a bare verb predicate can receive either a past or a present, but not a future interpretation.
- While Duffield argues for *se* being an overt optional tense in Vietnamese, his analysis do not explain for this contrast between non-future and future interpretations.
  - Non-future interpretations can be obtained with no overt tense marker.
  - Future interpretations can only be obtained with an overt tense marker

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- Besides the ordinary future readings, *se* also gives rise to 'future in the past' readings
- If *se* functions as a future tense that requires a predicate to be interpreted after the UT, then the fact that *se* can also give rise to 'future in the past' readings cannot be accounted for.

# 'Future in the Past' Interpretation

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SITUATION: Zheng is going to go to Germany in a week.

- (11) Tuan sau Zheng se di Duc.  
week after Zheng SE go Germany  
'Zheng will go to Germany next week.'

SITUATION: Zheng was going to go to Germany last week, but his flight was cancelled.

- (12) Tuan truoc Zheng se di Duc.  
week before Zheng SE go Germany  
'Zheng was going to go to Germany last week.'

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- Under a neo-Reichenbachian framework, (11) and (12) will have the following relations among the ET, the RT, and the UT:

(13) a. (13):  $UT < RT, ET$

b. (14):  $RT < UT \ \& \ RT < ET$

- Duffield (1999, 2007) only predicted the precedence relation between the UT and the RT, and thus fails to account for cases in which the  $RT < UT$ .

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- Duffield failed to capture all the readings that a clause containing *se* and *dang* can get.
- His account predicted that *se dang* gives rise to future progressive readings.
  - *Se* was proposed to be a future tense.
  - *Dang* was proposed to be a progressive aspect.

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Ordinary future progressive reading is not the only interpretation that sentences like (14) can get:

- (14) Becky **se dang** day LING 201.  
Becky SE PROG teach LING 201  
'Becky will be / would be teaching LING 201.'

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SITUATION: It is April 2018. Becky is going to teach Linguistics next year.

- (15) Nam sau Becky **se dang** day Ngon ngu hoc.  
year after Becky SE PROG teach Linguistics  
'Becky will be teaching Linguistics next year.'

SITUATION: It is April 2018, and I am telling you Becky's life story. In April 2015, she found out that she was assigned to teach Linguistics in April 2016.

- (16) Nam sau Becky **se dang** day Ngon ngu hoc.  
Year after Becky SE PROG teach Linguistics  
'Becky would be teaching Linguistics next year.'



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Under the view of Duffield (1999, 2007), *se* is a future tense, and thus the combination of this morpheme with the PROG *dang* cannot get the desired ‘future in the past’ progressive reading for situations like (16) above.

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- Duffield neither discussed the perfective aspect nor proposed formal semantics for viewpoint aspects.
- His analysis did not address the contrast in the ability to cover both past and present RTs between the progressive aspect *dang* and the phonologically empty perfective aspect.

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- A bare verb predicate with the PFV  $\emptyset$  is compatible with both a past-time sub-event and a present-time sub-event simultaneously, while a clause containing the PROG *dang* is not.

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SITUATION: Ethan and Jon Ander are taking a cooking class, and they wanted to each make a sandwich. Ethan was making his an hour ago, but he stopped and never worked on it again. Jon Ander is currently in the middle of his.

- (17) a. Ethan va Jon Ander  $\emptyset$  lam banh mi.  
Ethan and Jon Ander PFV make sandwich  
'Ethan and Jon Ander make / made sandwiches.'
- b. #Ethan va Jon Ander **dang** lam banh mi.  
Ethan and Jon Ander PROG make sandwich  
'Ethan and Jon Ander are / were making sandwiches.'

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- The possibility of (17a) in the paired scenario shows that a bare predicate like *lam banh mi* ‘make sandwiches’ can be used in one-and-the-same sentence to apply to both past and present events.
- Curiously, the impossibility of (17b) in this same scenario shows that adding the progressive particle *dang* defeats this possibility.
- This curious contrast is not accounted for by Duffield (1999, 2007).

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The pronominal approach to tense semantics (Kratzer 1998):

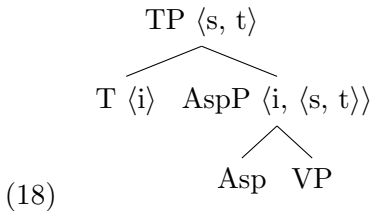
- The Tense head, which is of type  $i$ , is sister to the Aspect Phrase, which denotes a property of times.
- This AspP in turn takes the VP as complement.

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The whole TP denotes a proposition:



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- Instead of projecting a temporal argument, verbs project an event argument.
- The lexical entry for verbs like ‘teach’ will be as follows:

$$(19) \quad \llbracket \text{teach} \rrbracket^{w, t, g, c} = [ \lambda x_e : [ \lambda y_e : [ \lambda e_\varepsilon : \text{teach}(e)(w) \& \text{Agent}(e)(w) = x \& \text{Theme}(e)(w) = y ] ] ] ]$$

‘In world  $w$ ,  $e$  is an event of teaching whose agent is  $x$  and whose theme is  $y$ .’

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- Aspect heads are of type  $\langle\langle\varepsilon, t\rangle, \langle i, t\rangle\rangle$ .
- They take as argument a predicate of events, which is the denotation of the VP, and return a predicate of times, which then goes on to combine with the T head.
- The lexical entry for the imperfective (IMPFV) aspect:

$$(20) \quad \llbracket \text{IMPFV} \rrbracket^{w, t, g, c} = [ \lambda P_{\langle\varepsilon, t\rangle} : [ \lambda t'_i : \exists e . t' \subseteq \tau(e) \ \& \ P(e) = T ] ]$$

‘The time  $t'$  is contained within the ‘temporal trace’ of an event of P.’

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- Since  $i$  is the type of time interval, the tense morpheme itself introduces a variable over time intervals.
- The variable in  $T$  corresponds to the  $RT$ , and receives its value from the contextually determined assignment function.
- The lexical entries of the tense morphemes introduce presuppositions restricting the  $RT$  (Heim 1994)

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The lexical entry for the past (PST) tense morpheme:

- (21)  $\llbracket \text{PST}_i \rrbracket^{w, t, g, c}$  is only defined if  $g(i) < t_c$   
If defined, then  $\llbracket \text{PAST}_i \rrbracket^{w, t, g, c} = g(i)$

‘The past tense morpheme is only defined if the context  $c$  provides a time interval  $g(i)$  that precedes the UT.’

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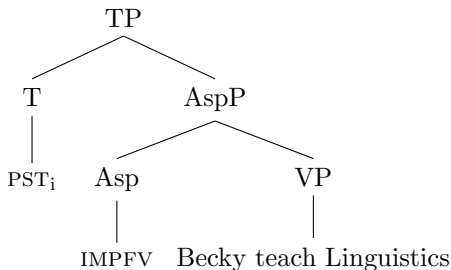
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The denotation of a simple sentence like ‘Becky was teaching Linguistics’ will be as follows:

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(22) a.



b.  $\llbracket (22a) \rrbracket^{w, t, g, c} = [ \lambda w : [ \exists e : [ \text{teach}(e)(w) \ \& \ \text{Agent}(e)(w) = \text{Becky} \ \& \ \text{Theme}(e)(w) = \text{Linguistics} \ \& \ g(i) \subseteq \tau(e) ] ] ]$  (where  $g(i) < t_c$ )

‘There is an event  $e$  of Becky teaching Linguistics, whose running time  $\tau$  includes the contextually salient past time  $g(i)$ .’

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- Vietnamese also employs this same functional structure of the clause.
- Moreover, similar to how the English PAST introduces a time interval that precedes the UT, the Tense head in Vietnamese also serves to narrow down possible RTs.
- The only difference is that the Vietnamese non-future tense morpheme is less restrictive than the English past tense morpheme shown earlier.

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- Bare verb sentences in Vietnamese can be used to describe past and present, but not future eventualities.
- Following Matthewson's (2006) analysis for Lillooet, I propose that such non-future temporal reference are contributed by a phonologically empty tense morpheme, NONFUT.
- All finite clauses in Vietnamese introduce a variable over time intervals, and the values for that variable are restricted to times that are not temporally located after the UT.

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- Then, while the English past tense morpheme restricts possible values for the RT to being past, the Vietnamese non-future one restricts such values to being non-future:

(23)  $\llbracket \text{NONFUT}_i \rrbracket^{w, t, g, c}$  is only defined if  $\neg(t_c < g(i))$   
If defined, then  $\llbracket \text{NONFUT}_i \rrbracket^{w, t, g, c} = g(i)$

‘The non-future tense morpheme is only defined if it is not the case that the context  $c$  provides a time interval  $g(i)$  that follows the UT.’

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- As shown earlier, with the presence of *dang*, the ET properly contains the RT.
- Duffield's (1999, 2007) suggested that *dang* is a progressive aspect.

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- Therefore, I propose the following semantics for the preverbal particle *dang*:

$$(24) \quad \llbracket \text{DANG} \rrbracket^{w, t, g, c} = [ \lambda P_{\langle \varepsilon, t \rangle} : [ \lambda t'_i : \exists e . t' \subset \tau(e) \ \& \ P(e) = T ] ]$$

‘The time  $t'$  is properly contained within the ‘temporal trace’ of an event of  $P$ .’

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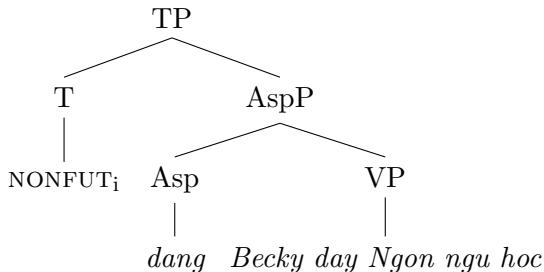
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Under the proposed semantics, the denotation of the sentence following sentence will be as follows:

- (25) Becky **dang** day Ngon ngu hoc.  
Becky PROG teach Linguistics  
'Becky is / was teaching Linguistics.'

# Progressive Aspect



- b.  $[[ \text{TP} ]]^w, t, g, c = [ \lambda w : [ \exists e : [ \text{teach}(e)(w) \ \& \ \text{Agent}(e)(w) = \text{Becky} \ \& \ \text{Theme}(e)(w) = \text{Linguistics} \ \& \ g(i) \subset \tau(e) ] ] ]$  (where  $\neg(t_c < g(i))$ )

‘There is an event  $e$  of Becky teaching Linguistics, whose running time  $\tau$  properly includes the contextually salient non-future time  $g(i)$ .’

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- While the progressive aspect is marked overtly with the preverbal particle *dang*, not all semantic aspectual distinctions receive overt morphological expression.
- A sentence with no overt marking of viewpoint aspect can get a perfective reading.

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The semantics of this phonologically empty viewpoint aspect is proposed to be as follows:

$$(27) \quad \llbracket \emptyset \rrbracket^{w, t, g, c} = [ \lambda P_{\langle \varepsilon, t \rangle} : [ \lambda t'_i : \exists e . \tau(e) \subseteq t' \ \& \ P(e) = T ] ]$$

‘The time  $t'$  contains the ‘temporal trace’ of an event of  $P$ .’



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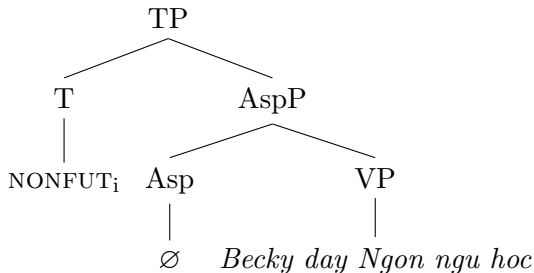
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Under the proposed semantics, the denotation of the sentence following sentence will be as follows:

- (28) Becky day Ngon ngu hoc.  
Becky teach Linguistics  
'Becky teaches / taught Linguistics.'

# Imperfective Aspect



- b.  $[[ \text{TP} ]]^w, t, g, c = [ \lambda w : [ \exists e : [ \text{teach}(e)(w) \ \& \ \text{Agent}(e)(w) = \text{Becky} \ \& \ \text{Theme}(e)(w) = \text{Linguistics} \ \& \ \tau(e) \subseteq g(i) ] ] ]$  (where  $\neg(t_c < g(i))$ )

‘There is an event  $e$  of Becky teaching Linguistics, whose running time  $\tau$  is included in the contextually salient non-future time  $g(i)$ .’

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- This proposed semantics captures the fact that sentences with no overt markings of tense and aspect can get both present perfective and past perfective interpretations.
- Therefore, it accounts for the non-future perfective readings as well as the contrast between the clause containing *dang* and the one with the null PFV.

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SITUATION: Ethan and Jon Ander are taking a cooking class, and they wanted to each make a sandwich. Ethan was making his an hour ago, but he stopped and never worked on it again. Jon Ander is currently in the middle of his.

- (30) a. Ethan va Jon Ander lam banh mi.  
Ethan and Jon Ander make sandwich  
'Ethan and Jon Ander make / made sandwiches.'
- b. #Ethan va Jon Ander **dang** lam banh mi.  
Ethan and Jon Ander PROG make sandwich  
'Ethan and Jon Ander are / were making sandwiches.'

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- The semantics proposed for the PROG *dang* and the PFV  $\emptyset$  above also account for the aspectual asymmetry.
- Only the clause containing the PFV  $\emptyset$ , but not the PROG *dang*, is true for situations in which there exist both past-time and present-time sub-events.
- The structures with the PFV and the PROG are as follows:

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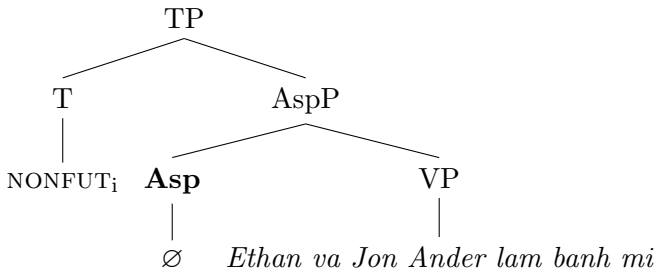
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- (31) Ethan va Jon Ander lam banh mi.  
Ethan and Jon Ander make sandwich  
'Ethan and Jon Ander make / made sandwiches.'



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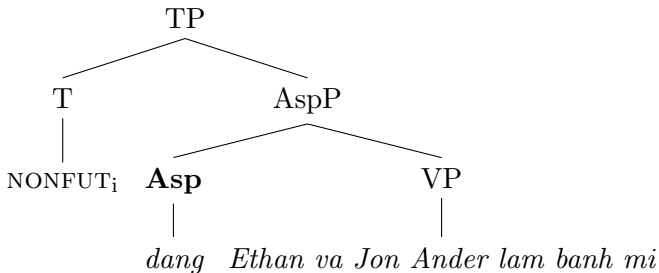
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- (32) Ethan va Jon Ander **dang** lam banh mi.  
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- The only difference between the 2 structures is the Asp head.
- When the NONFUT tense is combined with the PFV  $\emptyset$ , it can provide an RT interval for both Ethan's and Jon Ander's sandwich-making sub-events.
- However, when it is combined with the PROG *dang*, the RT interval provided cannot cover these same sub-events.

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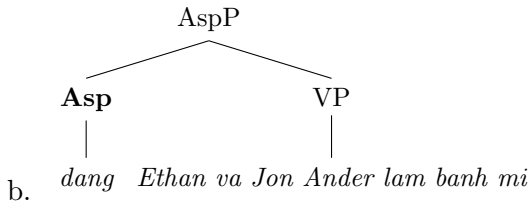
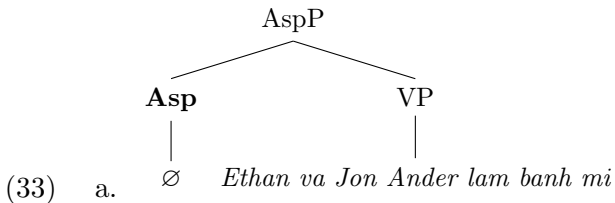
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Before taking a closer look at this difference in temporal interaction, I will discuss the event plurality observed in the VP.

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- Both (33a-b) have cumulative predication in the sense that there are a total of 2 people working separately on the making of their own sandwiches, and a total of 2 sandwiches are made.
- In this case, the predicate contains two sub-events:

	EVENT	AGENT	THEME
(34)	$e_1$	Ethan	sandwich <sub>1</sub>
	$e_2$	Jon Ander	sandwich <sub>2</sub>

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In order to propose the semantics for the VPs in (33) above, we first need consider the domains of entities and of events.

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Link (1983):

- Firstly, the domain of entities  $D_e$  should contain both singular and plural individuals.
- If  $D_e$  is assumed to be cumulative, then certain subsets of  $D_e$  are also cumulative.

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- Such cumulativity can be extended to those sets' characteristic functions, which are the members of  $D_{\langle e, t \rangle}$ :

$$(35) \quad \text{CUMULATIVITY (Properties of Individuals):}$$
$$[ \lambda P_{\langle e, t \rangle} : [ \forall x_e [ \forall y_e : [ [ P(x) \ \& \ P(y) ] \rightarrow P(x + y) ] ] ] ] ]$$

- Whenever  $x$  and  $y$  are in  $D_e$ , the sum of  $x$  and  $y$ , which is  $x + y$ , is so in  $D_e$ .

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- Secondly, this sum operation is also defined for events, and, consequently,  $D_s$  can also be assumed to be cumulative.
- Cumulativity for the members of  $D_{\langle s, t \rangle}$  will then be as follows:

$$(36) \text{ CUMULATIVITY (Properties of Events):}$$
$$[ \lambda P_{\langle s, t \rangle} : [ \forall e_s [ \forall e'_s : [ [ P(e) \ \& \ P(e') ] \rightarrow P(e + e') ] ] ] ] ]$$



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Landman (2000):

- The basic verb and thematic role predicates of the logical representations are singular predicates that are pluralized with a \*-operator that maps properties and relations into their smallest cumulative extensions.

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Kratzer (2008):

- Lexical verbs like ‘make’ are relations between events and themes, and they are inherently pluralized.

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Putting all the key ingredients together, the semantics for the VPs in (33) ('Ethan and Jon Ander make sandwiches') is proposed to be as follows:

- (37)  $\llbracket \text{VP} \rrbracket^{w, t, g, c} = [ \lambda w : [ \exists e : [ * \text{make}(e)(w) \ \& \ * \text{Agent}(e)(w) = \text{Ethan} + \text{Jon Ander} \ \& \ * \text{Theme}(e)(w) = \text{sandwich}_1 + \text{sandwich}_2 ] ] ]$

'In world  $w$ , there is an event  $e$  such that  $e$  is a plural event of making whose cumulative agent is the sum of Ethan and Jon Ander and whose cumulative theme is the sum of two sandwiches.'

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- The truth-conditions above are satisfied in the given situation, as they are witnessed by the plural event  $e_1 + e_2$ , the plural entity Ethan + Jon Ander, and the plural entity sandwich<sub>1</sub> + sandwich<sub>2</sub>.
- Under the proposed semantics, the denotation of the clause containing the PFV  $\emptyset$  will then be calculated as follows:

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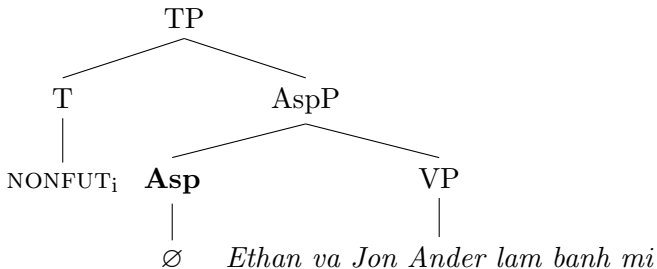
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- (38) Ethan va Jon Ander lam banh mi.  
Ethan and Jon Ander make sandwich  
'Ethan and Jon Ander make / made sandwiches.'



- (39) a.  $\llbracket \text{AspP} \rrbracket^{w, t, g, c} = [ \lambda t : [ \lambda w : [ \exists e : [$   
 $\text{*make}(e)(w) \ \& \ \text{*Agent}(e)(w) = \text{Ethan} + \text{Jon}$   
 $\text{Ander} \ \& \ \text{*Theme}(e)(w) = \text{sandwich}_1 +$   
 $\text{sandwich}_2 \ \& \ \tau(e) \subseteq t ] ] ]$
- b.  $\llbracket \text{TP} \rrbracket^{w, t, g, c} = [ \lambda w : [ \exists e : [ \text{*make}(e)(w) \ \&$   
 $\text{*Agent}(e)(w) = \text{Ethan} + \text{Jon Ander} \ \&$   
 $\text{*Theme}(e)(w) = \text{sandwich}_1 + \text{sandwich}_2 \ \& \ \tau(e)$   
 $\subseteq g(i) ] ] ]$  (where  $\neg(t_c < g(i))$ )
- ‘There is a plural event  $e$  of Ethan making a sandwich and Jon Ander making a sandwich, whose running time  $\tau$  is included in the contextually salient non-future time  $g(i)$ .’

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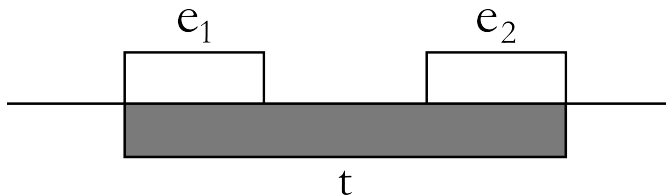
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The PFV  $\emptyset$  existentially quantifies over the event variables, and situate the ETs (the times of Ethan making a sandwich and of Jon Ander making a sandwich) inside an evaluation interval (the RT).



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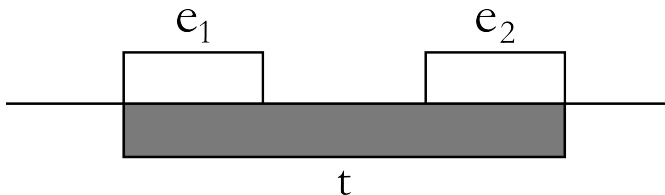
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The sum of the time of each of these sub-events is still contained within the time span of the non-future RT (the interval running from a salient point in the past up until the UT).





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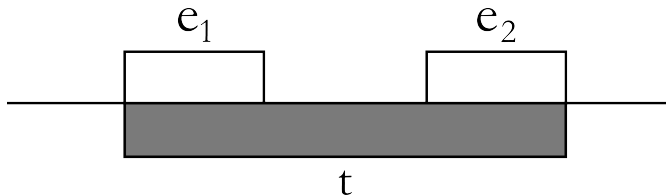
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Then, the combination of the NONFUT tense and the PFV  $\emptyset$  provides an RT large enough to cover both the past-time sub-event and the present-time one simultaneously.



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The presence of the PROG *dang* flips the inclusion relation of these time intervals, and thus the denotation of the clause containing *dang* will then be calculated as follows:

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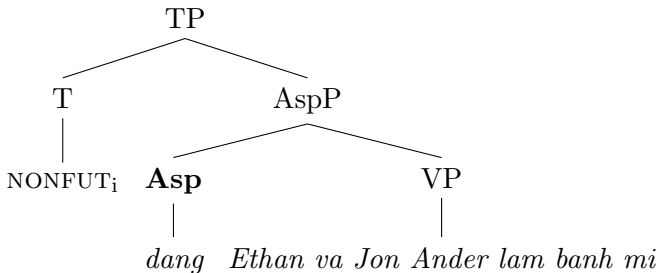
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- (40) Ethan va Jon Ander **dang** lam banh mi.  
Ethan and Jon Ander PROG make sandwich  
'Ethan and Jon Ander are / were making sandwiches.'



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- (41) a.  $\llbracket \text{AspP} \rrbracket^{w, t, g, c} = [ \lambda t : [ \lambda w : [ \exists e : [$   
\*make(e)(w) & \*Agent(e)(w) = Ethan + Jon  
Ander & \*Theme(e)(w) = sandwich<sub>1</sub> +  
sandwich<sub>2</sub> &  $t \subset \tau(e)$  ] ] ]
- b.  $\llbracket \text{TP} \rrbracket^{w, t, g, c} = [ \lambda w : [ \exists e : [$  \*make(e)(w) &  
\*Agent(e)(w) = Ethan + Jon Ander &  
\*Theme(e)(w) = sandwich<sub>1</sub> + sandwich<sub>2</sub> &  $g(i)$   
 $\subset \tau(e)$  ] ] ] (where  $\neg(t_c < g(i))$ )
- ‘There is a plural event e of Ethan making a sandwich and Jon Ander making a sandwich, whose running time  $\tau$  properly includes the contextually salient non-future time  $g(i)$ .’

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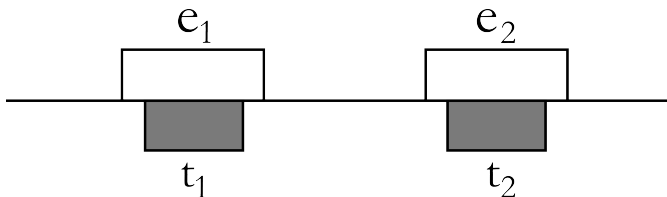
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Since the PROG puts the RT inside the ET, the proposed semantics shows that for each of the sub-events' running times, there is an RT properly contained within it.



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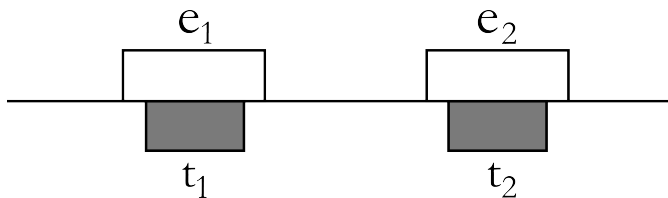
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Since the sub-events  $e_1$  and  $e_2$  of Ethan making a sandwich in the past and of Jon Ander making a sandwich in the present are disjoint in time, the RTs contained within these time spans cannot form an interval.



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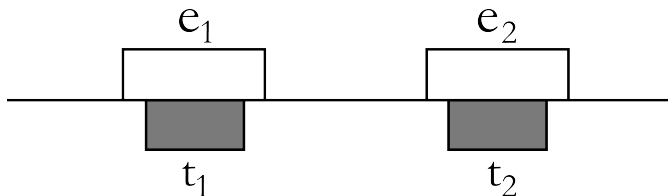
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Then, there is no evaluation interval that can cover both a stretch of time in the past as well as the UT.



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*Se* can give rise to both ordinary future and ‘future in the past’ readings:

SITUATION: Zheng is going to go to Germany in a week.

- (42) Tuan sau Zheng **se** di Duc.  
week after Zheng SE go Germany  
‘Zheng will go to Germany next week.’

SITUATION: Zheng was going to go to Germany last week, but her flight was cancelled.

- (43) Tuan truoc Zheng **se** di Duc.  
week before Zheng SE go Germany  
‘Zheng was going to go to Germany last week.’

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- *Se* is the Vietnamese overt sell-out of the English WOLL, originally proposed by Abusch (1985).
- This WOLL operator is the hypothetical untensed root underlying ‘will’ and ‘would’ in English.
- The surface forms ‘will’ and ‘would’ are then proposed to each contain WOLL plus tense, which is either present or past, respectively.

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- Equivalently to the English WOLL, the Vietnamese *se* can then combine with the phonologically empty NONFUT tense morpheme, which picks out a non-future RT.

- The semantics of *se* is proposed to be as follows:

$$(44) \quad \llbracket SE \rrbracket^{w, t, g, c} = [ \lambda P_{\langle i, t \rangle} : [ \lambda t' : [ \exists t'' . t'' > t' \& P(t'') = T ] ] ]$$

‘There is an interval  $t''$  that follows  $t'$ .’

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- Future time reference in Vietnamese is achieved by the co-occurrence of the obligatory null NONFUT tense morpheme with *se*.
- I propose that *se* takes a high Asp head, which is above the one that the viewpoint aspects occupy, but lower than the Tense head.

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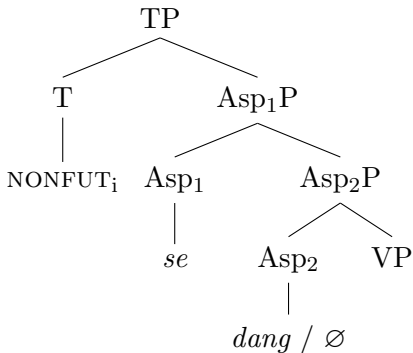
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Under the proposed semantics and syntax, the denotation of a clause containing *se* is then calculated as follows:

- (46) Becky **se** day Ngon ngu hoc.  
Becky FUT teach Linguistics  
'Becky will / would teach Linguistics.'

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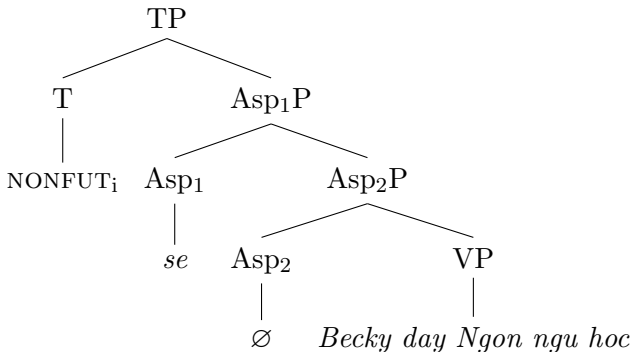
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- (48)  $\llbracket \text{TP} \rrbracket^{w, t, g, c} = [ \lambda w : [ \exists t' : [ g(i) < t' \ \& \ \exists e [ \text{teach}(e)(w) \ \& \ \text{Agent}(e)(w) = \text{Becky} \ \& \ \text{Theme}(e)(w) = \text{Linguistics} \ \& \ \tau(e) \subseteq t' ] ] ] ]$  (where  $\neg(t_c < g(i))$ )

‘There is an event  $e$  of Becky teaching Linguistics, whose running time  $\tau$  is included in a time  $t'$  which follows the contextually salient non-future time  $g(i)$ .’



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The discussion has focused on how temporal reference in Vietnamese is determined with different preverbal particles:

- Every bare verb predicate in the language possesses an obligatory phonologically empty NONFUT tense morpheme, which restricts the RT to being non-future.
- Contrary to the previous account, *se* is not a future tense, but it is an overt spell-out of WOLL-operator, respectively.
- The combination of *se* and this null tense yields both ordinary future and ‘future in the past’ interpretations.

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- The RT provided from the combination of the NONFUT tense with the null PFV is compatible with both past-time and present time sub-events simultaneously.
- Meanwhile, NONFUT + PFV cannot yield an RT large enough to cover these sub-events at the same time.
- The discussion relates directly to recent approaches to temporal reference in ‘tenseless’ languages.
- It offers data from Vietnamese to the debate on semantic variation on tense and aspect across languages.

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