



# Aspectual Asymmetry: The Vietnamese (Im)Perfectivity

Thuy Bui ♦ University of Massachusetts Amherst ♦ tbui@umass.edu ♦ WCCFL 36

## Temporal Data

- Vietnamese is a ‘superficially tenseless’ language, where temporally unmarked verbs can describe non-future eventualities.
- When there is no overt aspectual marking, the viewpoint aspect can be interpreted as perfective. Meanwhile, clauses containing *dang* are compatible with progressive aspect:

- (1) Chewie Ø lam banh mi.  
Chewie PFV make sandwich  
‘Chewie makes/made a sandwich.’
- (2) Chewie dang lam banh mi.  
Chewie PROG make sandwich  
‘Chewie is/was making a sandwich.’

## The Puzzle

- Both the PFV and the PROG allow for present and past readings.
- In scenarios that require both present and past RTs to be covered at the same time, there arises an asymmetry between these 2 viewpoint aspects.
- Bare predicates are compatible with both past and present sub-events simultaneously, while clauses containing *dang* are not:

### SCENARIO

Chewie and Han wanted to each make a sandwich. Chewie was making his an hour ago, but he stopped and never worked on it again. Han is currently in the middle of his.

- (3) C va H Ø lam banh mi.  
C and H PFV make sandwich  
‘C and H make/made sandwiches.’
- (4) XC va H dang lam banh mi.  
C and H PROG make sandwich  
‘C and H are/were making sandwiches.’

## Ingredient 1: Tense and Aspect

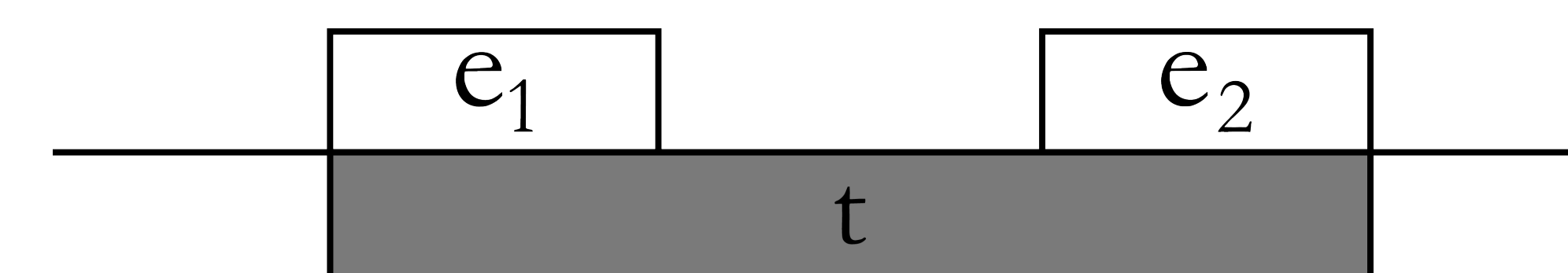
- The non-future temporal reference in ‘superficially tenseless’ languages like Vietnamese are contributed by a phonologically empty tense morpheme (Matthewson 2006):
- (3)  $[[ \text{NONFUT}_i ]]^w, t, g = g(i)$ , only if  $\neg(t < g(i))$
- Given (1), the semantics of Ø and *dang* are proposed to be equivalent to that of a PFV and a PROG, respectively:
- (4)  $[[ \text{Ø} ]]^w, t, g = [ \lambda P_{\langle \varepsilon, t \rangle} : [ \lambda t_{1(i)} : \exists e . \tau(e) \subseteq t_1 \ \& \ P(e) ] ]$
- (5)  $[[ \text{DANG} ]]^w, t, g = [ \lambda P_{\langle \varepsilon, t \rangle} : [ \lambda t_{1(i)} : \exists e . t_1 \subset \tau(e) \ \& \ P(e) ] ]$
- Except for their Aspect heads, (2a) and (2b) have the same NONFUT T heads and the same VPs that involve event plurality:
- (6)  $[_{TP} [_T \text{NONFUT}_i] [_{AspP} [_{Asp} \text{Ø}] [_{VP} C \ \& \ H \ \text{make sandwich} ] ] ]$
- (7)  $[_{TP} [_T \text{NONFUT}_i] [_{AspP} [_{Asp} \text{dang}] [_{VP} C \ \& \ H \ \text{make sandwich} ] ] ]$

## Ingredient 2: Event Plurality

- Both (2a) and (2b) have cumulative predication.
- (6) EVENT AGENT THEME  
e<sub>1</sub> Chewie sandwich<sub>1</sub>  
e<sub>2</sub> Han sandwich<sub>2</sub>
- D<sub>e</sub> contain both singular and plural individuals. If D<sub>e</sub> is cumulative, then subsets of D<sub>e</sub> can also be cumulative (Link 1983).
- (7) CUMULATIVITY (Properties of Individuals):  
 $[ \lambda P_{\langle e, t \rangle} : [ \forall c_{\langle e \rangle} : [ \forall h_{\langle e \rangle} : [ [ P(c) \ \& \ P(h) ] \rightarrow P(c + h) ] ] ] ] ]$
- Ds can also be assumed to be cumulative:
- (8) CUMULATIVITY (Properties of Events):  
 $[ \lambda P_{\langle s, t \rangle} : [ \forall e_{1\langle s \rangle} : [ \forall e_{2\langle s \rangle} : [ [ P(e_1) \ \& \ P(e_2) ] \rightarrow P(e_1 + e_2) ] ] ] ] ]$
- Lexical verbs like *make* are relations between events and themes, and they are inherently pluralized (Kratzer 2008).
  - The \*-operator that maps properties and relations into their smallest cumulative extensions (Landman 2000)
  - The semantics for the VPs in (5) is proposed to be as follows:
- (9)  $[[ \text{VP} ]]^w, t, g = [ \lambda w : [ \exists e : [ *make(e)(w) \ \& \ *Agent(e)(w) = \text{Chewie} + \text{Han} \ \& \ *Theme(e)(w) = \text{sandwich}_1 + \text{sandwich}_2 ] ] ]$

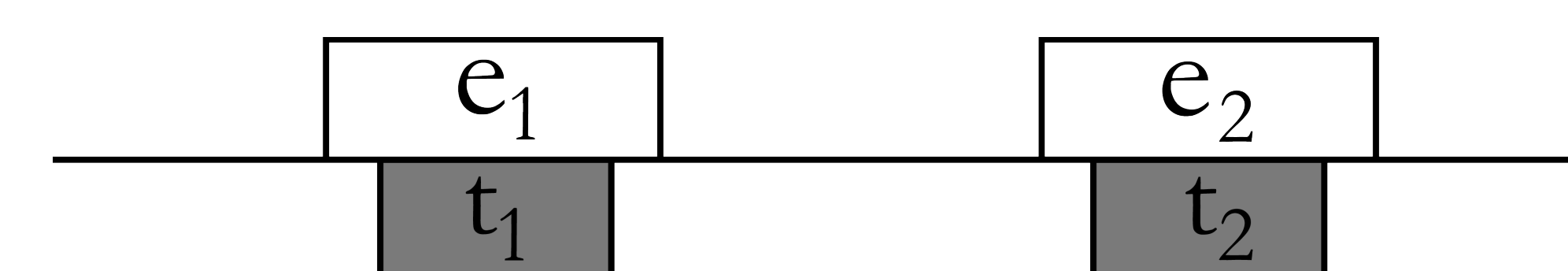
## Deriving Conjoint RTs

- The denotation of (3), with the structure in (6) would be:
- (10)  $[[ \text{TP} ]]^w, t, g = [ \lambda w : [ \exists e : [ *make(e)(w) \ \& \ *Agent(e)(w) = \text{Chewie} + \text{Han} \ \& \ *Theme(e)(w) = \text{sandwich}_1 + \text{sandwich}_2 \ \& \ \tau(e) \subseteq g(i) ] ] ]$  (where  $\neg(t < g(i))$ )
- The sum of the sub-events’ running times is still contained within the time span of the NONFUT RT – the interval running from a salient point in the past up until the UT.
  - The PFV Ø existentially quantifies over the event variables, and situates the ETs inside an evaluation interval.
  - The combination of the NONFUT tense and the PFV Ø provides an RT large enough to cover both the past-time sub-event and the present-time one simultaneously.



## Deriving Disjoint RTs

- The PROG *dang* flips the inclusion relation of these time intervals, and thus the denotation of (4), with the structure in (7), is calculated as follows:
- (11)  $[[ \text{TP} ]]^w, t, g = [ \lambda w : [ \exists e : [ *make(e)(w) \ \& \ *Agent(e)(w) = \text{Chewie} + \text{Han} \ \& \ *Theme(e)(w) = \text{sandwich}_1 + \text{sandwich}_2 \ \& \ g(i) \subset \tau(e) ] ] ]$  (where  $\neg(t < g(i))$ )
- For each of the sub-events’ running times, there is an RT properly contained within it.
  - Since the past sub-event e<sub>1</sub> and the present sub-event e<sub>2</sub> are disjoint in time, the RTs contained within these time spans cannot form an interval.
  - There is no evaluation interval that can cover both a stretch of time in the past as well as the UT.



### Selected References

Kratzer, A. 2008. On the Plurality of Verbs. ♦ Landman, F. 2000. Events and Plurality. ♦ Link, G. 1983. The Logical Analysis of Plurals and Mass Terms: A Lattice-Theoretic Approach. ♦ Matthewson, L. 2006. Temporal Semantics in a Supposedly Tenseless Language.