

# **Tense as a Complex of Three Points: E**

Ling 406/802; Spring 2005

Material from Chierchia & McConnell-Ginet Ch 5.2 (e)  
and Hornstein 1990, pp. 8-41

# A Reichenbachian Theory of Tense

- Following Hans Reichenbach (1947), Hornstein (1990) advocates tense as a complex of three points: time of event (E), time of utterance (S), and reference time (R).

- What is R? The time from which the action or event is viewed.

R could be explicitly specified by a temporal adverb, or identified with the time of some other event mentioned in the preceding context, or simply accommodated by context.

(1) When Mary came to the party, John had left.

S: time of utterance

E: time of John's leaving

R: time of Mary's coming to the party

(2) At 3pm, John had left the office.

S: time of utterance

E: time of John's leaving the office

R: 3pm

## A Reichenbachian Theory of Tense (cont)

- Different tense interpretation is determined by the way S, E, and R are related with each other.

Notation: E,R = E and R are contemporaneous; E\_R = E is earlier than R

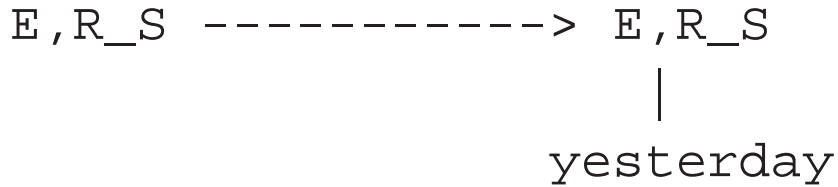
Basic tense structure	Interpretation	Example
S,R,E	present	John is leaving.
E,R_S	past	John left.
S_R,E	future	John will leave.
E_S,R	present perfect	John has left.
E_R_S	past perfect	At 3pm, John had left.
S_E_R	future perfect	John will have left at 3pm.

- The relationship between S and R determines present/past/future tense. The relationship between R and E determines perfect tense. The relationship between S and E is indirect, and depends on the S/R and R/E relationships.
- QUESTION: While it makes sense to posit R for perfect tense, does R play any visible interpretive role in simple tenses. Then how do we represent R if R is also present in the representation of simple tenses?

# Derived Complex Tense Structure

- Basic tense structures (BTS) can be modified to derive complex structures (DTS). One way of doing this is to use temporal ad

(3) John left yesterday.



- Constraints on the derivation of DTS
  - (4) X associates with Y  $=_{def}$  X is separated from Y by com
  - (5) BTS is preserved iff:
    - a. No points are associated in DTS that are not associa
    - b. The linear order of points in DTS is the same as that
  - (6) Constraint on DTS: DTS must preserve BTS.











# Multiple Adverbs: Evidence for R Points in Simple

- Pre-sentential adverbs prefer to modify R.

(14) At 3pm, John had left the store.

- Post-sentential adverbs prefer to modify E.

(15) John had left the store at 3 pm.

Note that temporal PPs with certain prepositions prefer to modify E, regardless of the position.

(16) John had left the store by 3 pm.

- What if there are multiple adverbs?

In simple tenses as well as perfect tenses, since there are E and R available, it should be possible to modify the two points with different temporal adverbs.

## Multiple Adverbs: Evidence for R Points in Simp (cont.)

- Past perfect

(17) Yesterday, John had left a week ago.

E\_R\_S -----> E\_R\_S  
                          |  \  
                          a week ago  yesterday

(18) \* A week ago, John had left yesterday.

E\_R\_S -----> R\_E\_S  
                          |  \  
                          a week ago  yesterday



# Multiple Adverbs: Evidence for R Points in Simp (cont.)

- Present

(21) Tomorrow, John is leaving in a week.

S , R , E -----> S \_ R \_ E  
                                  /    \  
                          tomorrow   in a week

(22) \* In a week, John is leaving tomorrow.

S , R , E -----> S \_ E \_ R  
                                  /    \  
                          tomorrow   in a week

## Two Positions for Temporal Adverbs

- Possible adverb slots: sentence-initial, sentence-medial, sentence-final

- (23)
- a. Yesterday, John left for Paris.
  - b. John, yesterday, left for Paris.
  - c. John left for Paris yesterday.

- All three slots cannot be filled.

- (24)
- a. \* Yesterday, John, at 6 o' clock, left for Paris a week ago.
  - b. \* Tomorrow, John, in a week, will leave for Paris in a week.

It is ok if one of the slots is filled by non-temporal adverb.

- (25) Tomorrow, John, luckily, will leave for Paris in a week.

- Bunched adverbs act like single adverbials as far as modifying the verb is concerned.

- (26)
- a. Yesterday at 6 o'clock, John left for Paris a week ago.
  - b. A week tomorrow, John will leave for Paris in a month.

⇒ Only two available slots, E and R, for temporal adverb modification









## Tense of Modal Auxiliaries: Counterfactuals

- In some cases, when temporal adverb modification on 'modal+have' is used, an illegal DTS, deviant non-temporal reading is generated.

- (31)
- a. George should have arrived tomorrow.
  - b. George would have arrived tomorrow.
  - c. George could have arrived tomorrow.
  - d. George ought to have arrived tomorrow.

⇒ George won't arrive tomorrow.

Instead 'modal+*have*' is interpreted as irrealis modality, and produces a counterfactual interpretation.

- QUESTION: Why is it that counterfactuals have past tense co

- (32)
- a. If I knew the answer, I would tell you.
  - b. John wishes he knew the answer.