Towards Tense and Aspect in Compositional Discourse Representation Theory

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Issue

- Almost every sentence feature Tense, and often Aspect
- Additional semantic phenomena = additional difficulties
- No analysis in wide-coverage semantics
- i.e. no wide-coverage of sequences-of-tense like (factual) narratives

Contribution

- Syntax-semantic interface between wide-spread frameworks
- Compositionality: not featured in DRT textbook treatment
- Optionality: smooth integration of Tense and Aspect account
- Spot problematic temporal and aspectual conditions

Motivational Example

- Adapted from DRT textbook
  Mary wrote a letter.  
  Mary did write a letter.
  Mary has met John. 
  Mary is writing a letter.

Lexical Entries

- Theory: λ-DRT
- Method of continuation:  
  \([S] := (e \rightarrow t) \rightarrow t\)
- Untensed verb entry:  
  \([\text{write}] := \lambda o. s. p. s (\lambda x. e)\)

Syntactic Parsing

- Theory: CCG
- Tool: C&C, EasyCCG
- \([\text{write}] := (\text{[a]} \text{[letter]}) [\text{Mary}]\)
- \([\text{did}] := (\text{[write]} (\text{[a]} \text{[letter]})) [\text{Mary}]\)
- \([\text{has}] := (\text{[met]} \text{[John]}) [\text{Mary}]\)
- \([\text{is}] := (\text{[writing]} (\text{[a]} \text{[letter]})) [\text{Mary}]\)

Representation of Meaning

- Theory: Discourse Representation Theory
- Style: neo-Davidsonian
- Tool: VerbNet roles

Take-Home Message

- Auxiliaries are meaningful VP-modifiers
- New conditions for no discrepancy
- Make it yours! Easy to season to your taste/framework:
  > Davidsonian, neo-Davidsonian (or hyper-Davidsonian)
  > Textbook condition set, present one, your special mix
  > Tools already available to make it real

What is Next?

- Short paper submitted to IWCS
- To be integrated into Parallel Meaning Bank
- Interaction with Negation (Projective DRT)
- Extend to temporal adverbs (often) and presuppositions (on Sunday)
- Method of delay: \([S] := e \rightarrow t\)