Modification: Types and features

Challenges:

• Enable PPs to modify either nominal phrases or verbal phrases
• Account for order of modifiers and heads
• Avoid spurious ambiguity for phrases with two modifiers
PP Modifiers

- Decide whether head is SPR-saturated
- Decide whether head or modifier does selection
  - If head selects, then worry about how to allow both PPs and adjs
  - If modifier selects, then add abstract pos type: n-or-v
Order of modifier and head

• Have two modifier rules (unavoidable)

• Constrain **HEAD** value for each modifier daughter
  
  Requires additional abstract *pos* types: *adj-or-adv, p-or-adv*
  
  Requires multiple inheritance for the type *adv*
Candidate grammar: VP/N-bar attachment

• Positive
  correct grammaticality results

• Negative
  spurious ambiguity
Spurious ambiguity

- Consider restricting pre-head modifiers to modify only word, not phrase
  Undergenerates: *the fierce fierce dog*
- Consider attachment of post-head modifiers to NP/S, not Nbar/VP
Candidate grammar with NP/S attachment for PPs and adverbs

• Positive
  still correct grammaticality for these data sets
  no spurious ambig

• Potential negatives
  asymmetry for adjectival modifiers
  *The dogs angry at the cats bark*
  *The angry dogs bark*
  difficult semantics
  *No dogs near the cat bark*
Other alternatives, using VP/N-bar attachment

• Add boolean feature MODIFIED
  Modifier-head-rule says head-dtr must be [MODIFIED −], but mother is unmarked
  (enabling fierce fierce dog)
  Head-modifier-rule says mother is [MODIFIED +]
  Other rules preserve the MODIFIED feature from head-dtr to mother

• Use additional phrase types to distinguish ”nuclear/extended” phrases
  We’ll see this solution in the next exercise