

# Coreference Resolution

These slides are by Chris Manning:

<http://www.stanford.edu/class/cs276b/syllabus.html>

<http://www.stanford.edu/class/cs276b/handouts/lecture14.pdf>

# Coreference

- Two noun phrases referring to the same entity are said to **corefer**.
- Example: Transcription from [RL95-2](#) is mediated through an ERE element at the 5-flanking region of the [gene](#).
- Coreference resolution is important for many text mining tasks:
  - Information extraction
  - Summarization
  - First story detection

# Types of Coreference

- Noun phrases: Transcription from [RL95-2](#) ...  
the [gene](#) ...
- Pronouns: [They](#) induced apoptosis.
- Possessives: ... induces [their](#) rapid dissociation  
...
- Demonstratives: [This gene](#) is responsible for  
Alzheimer's

# Preferences in pronoun interpretation

- Recency: *John has an Integra. Bill has a legend. Mary likes to drive it.*
- Grammatical role: *John went to the Acura dealership with Bill. He bought an Integra.*
- (?) *John and Bill went to the Acura dealership. He bought an Integra.*
- Repeated mention: *John needed a car to go to his new job. He decided that he wanted something sporty. Bill went to the Acura dealership with him. He bought an Integra.*

# Preferences in pronoun interpretation

- Parallelism: *Mary went with Sue to the Acura dealership. Sally went with her to the Mazda dealership.*
- ??? *Mary went with Sue to the Acura dealership. Sally told her not to buy anything.*
- Verb semantics: *John telephoned Bill. He lost his pamphlet on Acuras. John criticized Bill. He lost his pamphlet on Acuras.*