L95: Introduction to Natural Language Syntax and Parsing

Lecture 4

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Submit Assignment 2 on Monday 12 noon
Today: Feedback Assignment 1
Today: Questions about Assignment 2
You read 5.7 and 5.8 for today
Chapter 12 J&M strongly advised – 12.3.3 in particular
For next time: Read section 6 (semantics)
Still on backburner: logic worksheet; Exercises 1-3 in 5.9
Today: Assignment 3 (Phrase structure analysis of sentences)
Assignment 1: Feedback

- Some personal feedback
  - Underline means something was wrong
- Mainly – group-wise feedback on common problems
Finite vs. non-finite verbs

- Past Participle vs. Finite past
  - Letters delivered
  - The only rabbit I ever liked was eaten by my parents
- Infinitive vs. non-3-sg-present
  - Hurricanes occur infrequently but cause devastation
- Modal verbs are MD
Multi-word units: complex conjunctions

- as well as
- about the same
- Glue together only if there is no alternative
Relative pronouns, vs. WH-pronouns

- who, that etc in relative clause: WDT
- WH-phrase in subordinate WH-clause: WP
Subordinating vs. Coordinating conjunction

- Subordinating conjunction (together with preposition): IN
- Coordinating conjunction: CC
Demonstrative pronoun

- *That is not OK.*
- Guidelines say to treat like demonstrative **determiner**
- **DT**
- similar case: *both*
\textit{It} in non-pronominal contexts

- \textit{It lay on the floor.}
- \textit{It rained.}
- \textit{It was her who first noticed it.}
- Semantically not all of these are pronouns (which ones aren’t?)
- But guidelines tell us tag them all as pronouns
Use vs mention; existential there

- Mentions can be NN
- Existential *there* is EX
Everything needs to be tagged

- Even if inconvenient, eg. foreign language, lexical examples, citations, punctuation
Adjectives/adverbs

- best suited
- bad tempered
- Don’t forget about superlatives and comparatives
Gerunds and Participles as Adjectives

- breaking point
- human annotators
- simplified version
- observed words
- tagging manuals
Noun Phrases

• Head: Noun (or Proper noun or pronoun)
• Optional Premodification:
  • Adjectival (Phrase)
  • Compound nouns
  • Possessive NP (with possessive marker “’s”)
• Specification
  • Necessary for some forms
  • Result: NP
• Optional Postmodification:
  • Relative clauses
  • Prepositional Phrases
From J and M, chapter 12.3.3
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Types of Clauses

- subordinate clauses [finite, -ing, infinitive]
  - I can’t believe that he tweeted that
  - I don’t like fishing in polluted rivers
  - I made him do the dishes

- WH-clauses
  - I asked who was at the party

- relative clauses [object/subject, reduced non-restrictive/restrictive]
  - the man who she filmed
  - the man who filmed her
  - the paper presented here
  - the Iranian runners who reached the goal within 2 hours were tired
  - the Iranian runners, who reached the goal within 2 hours, were tired
Intransitive verb

a. Kim smiled

S[decl]

NP    VP

N[name]    V[intrans]

Kim    smiled
Transitive verb

b. Kim kissed Sandy

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S[decl]
  NP -> N[name] V[trans] NP
     Kim kissed Sandy
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Ditransitive verb 1

c  Kim gave Sandy Fido

S[decl]

NP

N[name]  V[ditrans]  NP  NP

Kim  gave  N[name]  N[name]

Sandy  Fido
Kim gave Fido to Sandy

S[decl]
  NP
    N[name] Kim
    V[ditrans] gave
  VP
    NP
      N[name] Fido
    PP
      P to
      NP Sandy
Subject Control verb

e Kim wanted to smile

S[decl]
  NP
    N[name] Kim
    V[infin] wanted
  VP
    Aux to
    V[infinitive] smile
Control vs. Raising Verbs

- **Control:** Subject or object is semantically an argument of the verb
  - Kim tried to enjoy the party [subject control]
  - Kim persuaded Lee to go to Paris [object control]
- **Raising:** Subject or object is semantically not an argument of the verb
  - Kim seemed to enjoy the party. [subject raising]
  - Kim expects Lee to have gone to Paris. [object raising]
Assignment 3

• Perform a phrase structure analysis of all chosen sentences
• Reuse your Tokenisation, POS analysis, NP analysis from assignments 1 and 2
• Draw a Phrase Structure tree for each sentence
• Submit by Monday November 4
Exercise 5.9.2

- Why is it $S \rightarrow NP \ VP$?
- Why not $S \rightarrow (NP \ V) \ NP$
- Why not $S \rightarrow NP \ V \ NP$
- Build a distributional argument using these sentences:
  - Passionately Kim kissed Sandy
  - Kim passionately kissed Sandy
  - Kim kissed Sandy passionately
  - *Kim kissed passionately Sandy
  - Kim kissed Sandy and Robin did so too
  - Kiss Sandy!