

Exercises on Syntax-Semantics

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1 Formal Grammars and NL: syntax

(a) (DONE already) Write a CFG that recognizes the sentences below and construct their derivations.

1. Everybody likes Boston.
2. I will leave Boston in the morning.
3. John saw a man with a telescope.
4. John gave Mary a red shirt.

(b) Write a CG that recognizes the sentences above and build the prove of their grammaticality.

(c) Convert the lexical entries given in (b) into TAG trees.

2 Syntax-Semantics

Label the CFG re-writing rules with lambda-terms. Using these labelled rules, build the meaning representation of sentence 1.

Use CG to build the MR of sentence 1. Pay attention to the quantifier phrase.

Build the CG proof of sentence 1 using the alternative "sequent-like" notation.

3 Ambiguities

Write the MR of the following sentences:

1. Everybody left
2. Every student left

3. Mary knows everybody
4. Everybody knows someone
5. Mary didn't leave
6. Mary didn't read a book

Build the MRs of the sentences above using Lambek calculus.