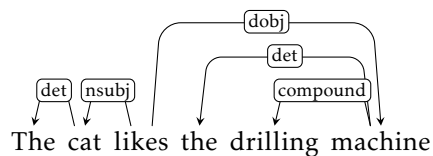


Dependency Parsing exercises: Grammar Based Methods

Deadline: 08.05.2017. Please send the homework to petit.jean@phil.hhu.de and cranenburgh@phil.hhu.de with subject "dependency homework" and an attachment named "ex3_lastname1_lastname2.pdf".

1. The goal of this exercise is to transform the following dependency analysis into a constituent based analysis (you will ignore the labels of the dependencies):



- (a) Give a bilexical context-free grammar allowing to parse the sentence.
 - (b) Give a parsing tree for the input. Is it the only one possible?
 - (c) Give a split-head representation for the sentence (giving the grammar is not necessary)
2. Consider the following sentence: "John gives the little girl a blue book."
 - (a) Give a set of constraints using the formalism presented in class ([Maruyama 1990]) which need to be applied to avoid wrong analyses of the given sentence
 - (b) Are there still unwanted analyses after propagation of your constraints? If there are, which ones are left and what is missing to eliminate them?