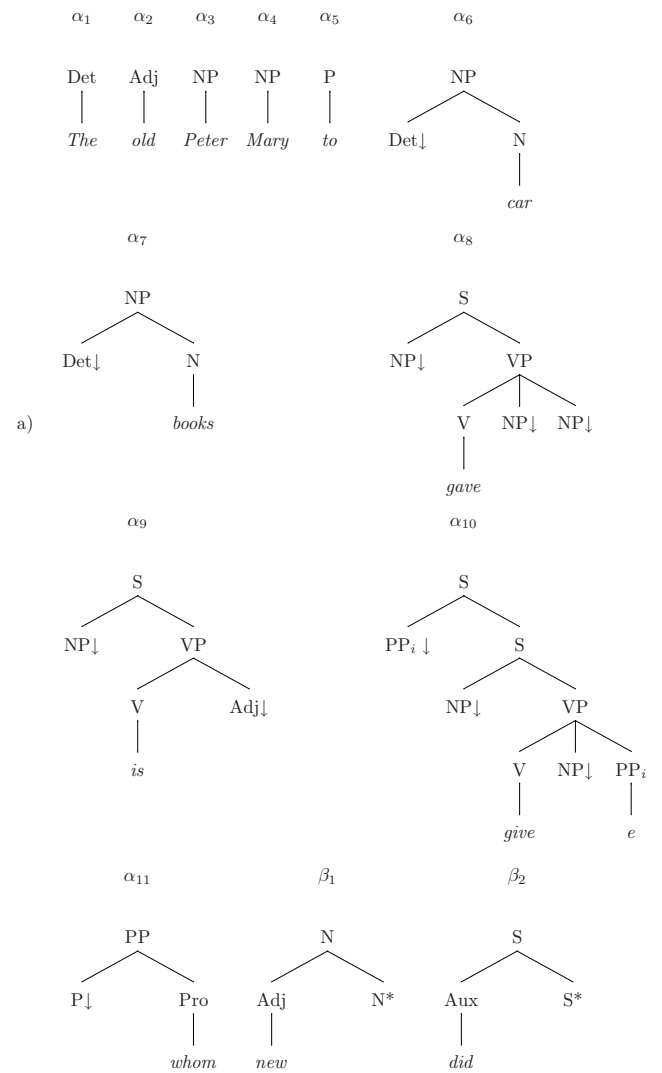
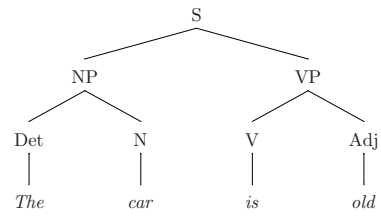


Tree-Adjoining Grammar - Sample Answers of
Exercises from 27.11.2008

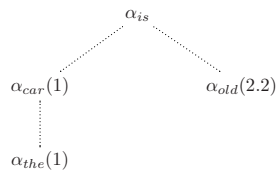
December 18, 2008



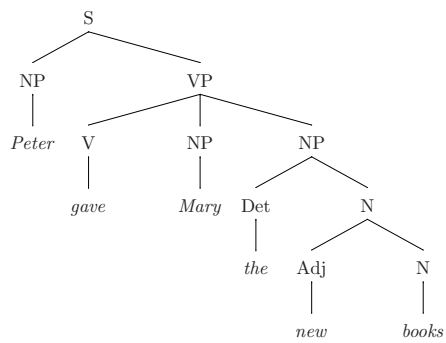
b) 1. derived tree



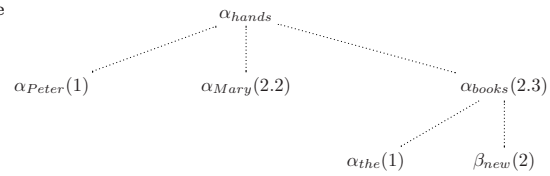
derivation tree



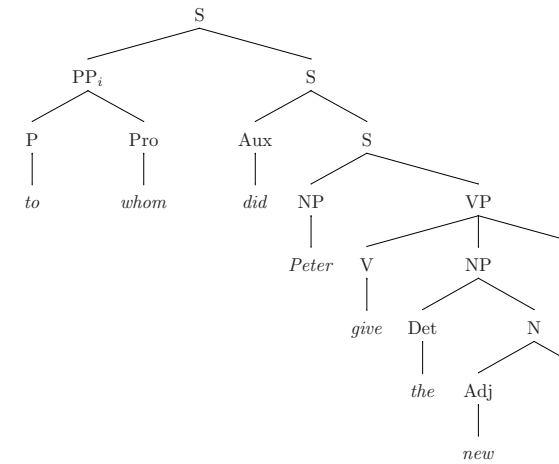
2. derived tree



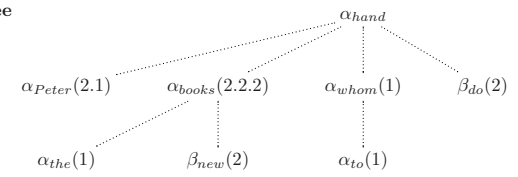
derivation tree



3. derived tree



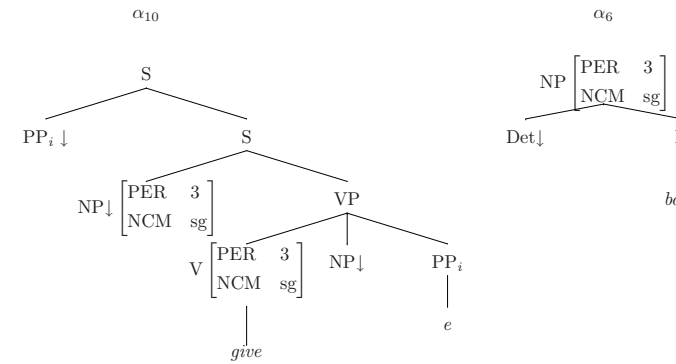
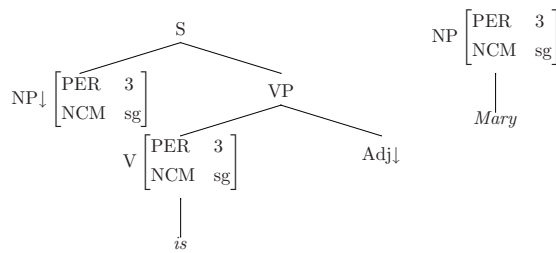
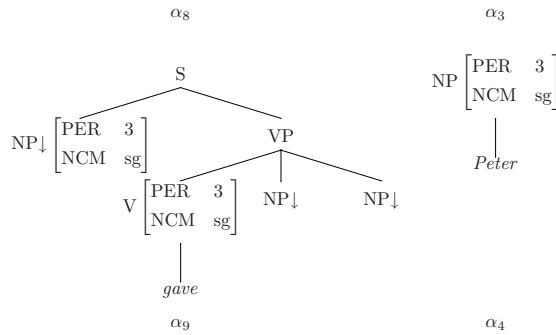
derivation tree



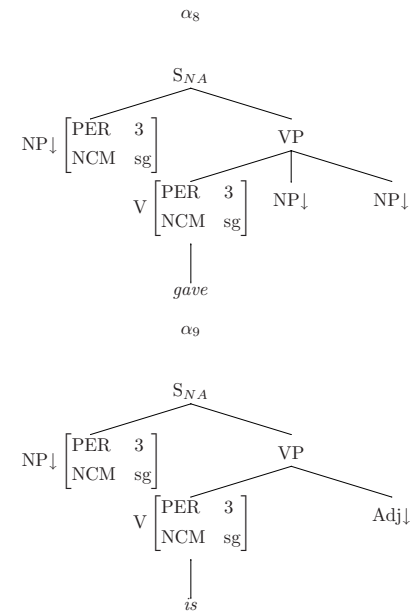
c) The grammar described overgenerates, because it generates the following ungrammatical sentences (sentences like “Peter is old” or “The new book is new” may sound strange but I consider them grammatical from a syntactic point of view):

1. **Ungrammatical agreement:** *The cars is old / *The books gave Mary the new books / *To whom did the books hand the new books
2. **Constraint on “does” adjunction:** *Does the car is old / *Did Peter gives Mary the new books
3. **Compulsory “did” adjunction:** *to whom Peter give the book
4. **Animacy:** ??The book gave Mary Peter / ??Peter gave the book Mary

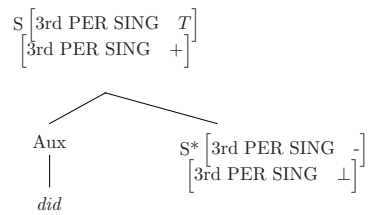
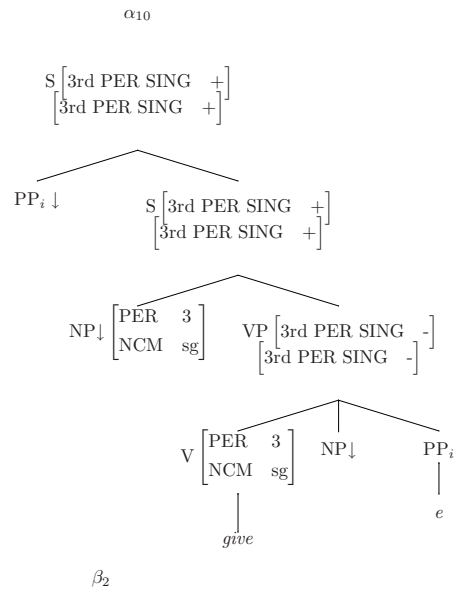
Ungrammatical agreement: In order to solve agreement problems in 1, I add agreement constraints by inserting a feature structure in trees α_8 , α_9 , α_3 , α_4 , α_6 :



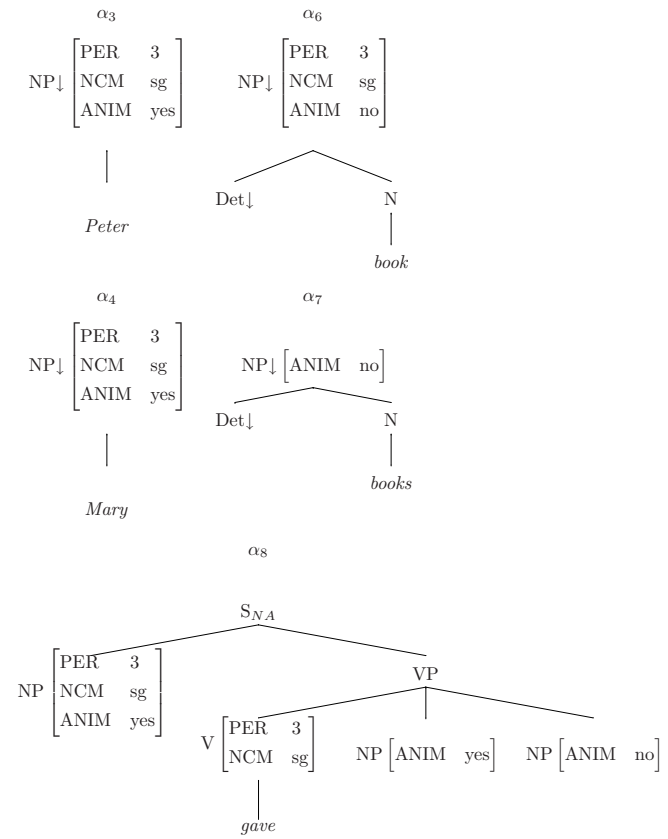
Constraint on “does” adjunction: In order to avoid ungrammatical *does* adjunctions in 2, I add an adjunction constraint to α_8 and α_9 :



Compulsory “does” adjunction: Tree α_{10} needs a 3rd person ending from “does” (e.g. 3), so I add a feature structures to β_2 and α_{10} :



Animacy: Sentences in 4 are implausible for an animacy constraint: the object handed is supposed to be unanimated and the goal of “hand” is supposed to be animated. So I add more constraints on trees α_3 , α_4 , α_6 , α_7 , α_8 , α_{10} :



α_{10}

