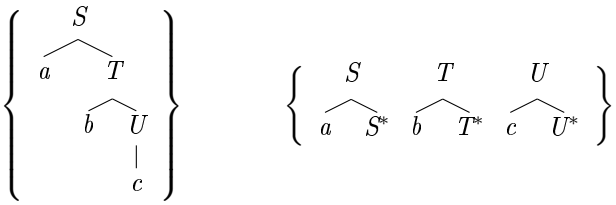
Tree Adjoining Grammars
Exercises

Laura Kallmeyer, Simon Petitjean

Wintersemester 2015/2016

Exercise 1 (15.01.2016) *Consider an MCTAG with terminals $\{a, b, c\}$, nonterminals $\{S, T, U\}$, no adjunction constraints and the following elementary tree sets:*



Which language does this MCTAG generate if

1. *it is taken to be a tree-local MCTAG?*
2. *it is taken to be a set-local MCTAG?*

Solution:

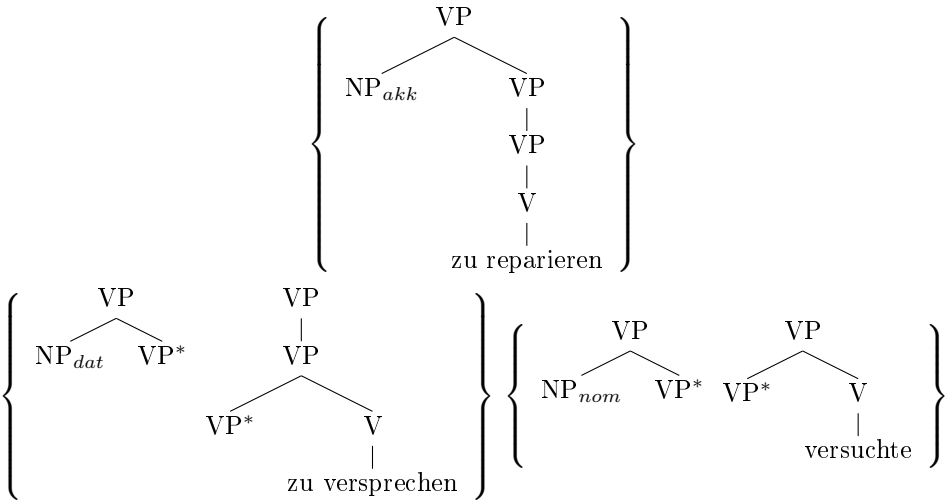
1. $\{abc, aabbcc\}$
2. $\{a^n b^n c^n \mid n \geq 1\}$

Exercise 2 (15.01.2016) *Consider the following sentence:*

(1) *dass er_{nom} es_{akk} ihm_{dat} zu reparieren zu versprechen versuchte*

Show that with elementary tree sets along the line of slide 22, one can obtain a tree-local MCTAG analysis for (1). (The "zu versprechen" tree needs more than two VP nodes, similar to the "zu reparieren" tree.)

Solution: The tree sets are the following:



A derivation for (1) is possible if first the *versprechen* set adoins as follows to reparieren: the *dat* tree adjoins at node address 2 and the *versprechen* tree at node address ε. Then the *versuchte* set adjoins to the *versprechen* tree, targeting the root node and its daughter.