

Frank Richter:  
**Grammatikformalismen für die Computerlinguistik**

**Homework Assignment 10****Due: July 7th****Exercise 1. [2 points]**

Describe the parsing problem of HPSG in your own words. (this can be done in two sentences!)

**Exercise 2. [4 points]**

The grammar of Section 3.1.2 in ‘*Grammar Formalisms and Parsing*’ licenses the sentences *I walk* and *She walks* while correctly excluding *\*I walks* and *\*She walk*. Add two new pronouns to the grammar, *you* and *they*, and modify the lexical entry of *walk* in such a way that the grammar licenses *You walk* and *They walk* with a reasonable representation for agreement and semantics, while excluding ungrammatical sentences which may result from the syntactic combination of the given words.

**Exercise 3. [2 points]**

The TRALE grammar *Spook*, which you find on the web page with the updated textbook grammars,<sup>1</sup> is a small grammar which is very similar to those that we have seen in class. However, there are mistakes built into this grammar. You can see their effects when you parse sentences such as:

- (1) a. she walks  
b. she loves her  
c. i walk  
d. she gives me milk  
e. she loves me

These sentences all get an unexpected number of answers from the system, which is due to the mistakes in the grammar. Other sentences get the right number of answers from the system. Find the mistakes in the theory file of the grammar, fix them, and write short comments into the file about what was wrong.

When you are looking for the mistakes, don't forget to pay attention to what the TRALE compiler is telling you.

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<sup>1</sup>[www.sfs.uni-tuebingen.de/~fr/teaching/ws07-08/lp/grammars.html](http://www.sfs.uni-tuebingen.de/~fr/teaching/ws07-08/lp/grammars.html)