

# Dependency Parsing exercises:

## Transition-based parsing III

Deadline: 05.06.2017. Please send the homework to [petit.jean@phil.hhu.de](mailto:petit.jean@phil.hhu.de) and [cranenburgh@phil.hhu.de](mailto:cranenburgh@phil.hhu.de) with subject "dependency homework" and an attachment named "ex7\_lastname1\_lastname2.pdf".

### 1. Dynamic oracles

- (a) It turns out that it is not possible to formulate a dynamic oracle for the arc-standard system, because it is not arc decomposable according to <http://aclweb.org/anthology/Q13-1033.pdf>. Which property of the arc-standard system related to the order in which arcs are added is responsible for this, when contrasted with the other transitions systems discussed? Show (part of) an example derivation which illustrates why arc-standard is not arc-decomposable.
- (b) When a dynamic oracle is compared to a static oracle, the dynamic oracle offers two advantages: it is *non-deterministic*, and it is *complete*. What is the difference between these two? Give an example of how each of these two advantages help to improve the training compared to using a static oracle.