

Frank Richter:
Grammatikformalismen für die Computerlinguistik

Aufgabenblatt 6

Exercise 1. [3 points] In Section 1.3 of the HPSG book Pollard and Sag introduce a number of notational abbreviations for AVM descriptions. These abbreviations allow us to write AVM descriptions such as (a) NP[*nom*]_[2nd,plur] and (b) NP[*acc*]_[2nd,fem].

1. Write down the MoMo descriptions which correspond to the AVM descriptions abbreviated by (a) and (b).
2. Is there an abstract feature structure (under Pollard and Sag's signature) which satisfies both (a) and (b) simultaneously? Give reasons for your answer.
3. Draw a concrete feature structure which satisfies (a). Try to keep it as small as possible, i.e., use as few nodes as possible in a well-formed concrete feature structure satisfying (a).

Exercise 2. [2 points] In example (9) on page 29 we see a description of the SYNSEM LOCAL value of the verb *sees*. Like many descriptions in the book, it uses a few abbreviatory conventions.

1. State the MoMo description which corresponds to the description in (9).
2. How does the MoMo description have to be modified to become a description of feature structures which represent the word *sees* in Pollard and Sag's grammar?

Exercise 3. [4 points] On page 33 of the HPSG book the authors discuss a description of the sentence *Kim gives Sandy Fido*. The description in their example (14) employs a number of abbreviatory conventions.

Translate (14) into a normal AVM description without abbreviations. You may keep the more convenient list notation of AVM descriptions with angled brackets (instead of the more explicit notation with the FIRST and REST attributes) if you like. Make sure that your AVM description says exactly the same as (14). What do we know about the PHON value of the complete sentential phrase on the basis of the description?

Exercise 4. [2 points] On page 45 Pollard and Sag say:

[...] The sort *marking* in turn has the subsorts *marked* and *unmarked*. Here *unmarked* is the default value, in the sense that it is the value borne by words other than markers.

Write down the second sentence of the quote as a principle of grammar.