

Figure 1: Example trees in the SD and FTB scheme for copula constructs.

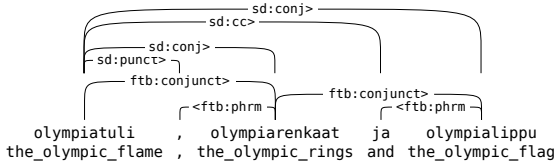


Figure 2: Example trees in the SD and FTB scheme for coordination.

copula construct is governed by the predicative, in the FTB scheme the subject is governed by the copular verb or, if present, the auxiliary (see Figure 1). Similarly, if a noun is preceded by several modifiers, the SD scheme attaches them all to the noun whereas the FTB chains them and only attaches the closest modifier to the noun. In addition, as the schemes often differ in parts of speech assignment in borderline cases, every rule possibly concerning for instance auxiliaries or adpositions must take into account the differences between the definitions of these groups of words.

As an example, the rule

$$\text{dep}(\text{amod}, T_1, T_2) \text{ and not } \text{dep}(\text{amod} | \text{poss} | \text{num}, T_1, T_x) \rightarrow \text{dep}(\text{attr}, T_1, T_2)$$

describes the transformation of an adjectival modifier dependency (*amod*) to an attribute dependency (*attr*), with the token  $T_1$  governing the token  $T_2$ . The negated restriction indicates that the rule should not be applied if  $T_1$  also has another dependent with the dependency type *amod*, *poss* or *num*. This is because in such a case, the FTB scheme chains the modifiers and only attaches the closest one to the noun.

As a second example, the rule

$$\text{dep}(\text{xcomp}, T_1, T_2) \text{ and is-ftb-aux}(T_2) \text{ and not } \text{dep}(\text{cop}, T_1, T_x) \rightarrow \text{dep}(\text{aux}, T_2, T_1)$$

describes the transformation of a clausal complement dependency *xcomp* between  $T_1$  and  $T_2$  to an *aux* dependency between  $T_2$  and  $T_1$ , for a verb that is defined as an auxiliary in the FTB scheme. For this, the rule is delimited to apply only when the  $T_2$  token belongs to a group of lemmas including all the auxiliaries in the FTB scheme. The negation declares that the rule should not be applied if  $T_1$  governs a *cop* dependency, meaning that it actually is a predicative. In this case the FTB scheme assigns the copular verb as the head (see Figure 1).

A specific challenge is posed by the transformation of coordination structures, shown in Figure 2, which can consist of arbitrarily many coordinated elements and are thus not easily addressed by the rules. Coordination structures are therefore transformed separately, by a dedicated program. A second case transformed by a dedicated program rather than by the rules are the