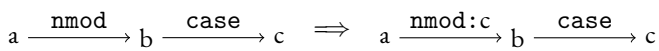
Graph rewritings

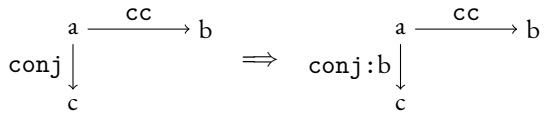
1 Rules

This are the rewrite rules presented in **SchusterEnhanced2016** for the Enhanced UD representations. They are represented as patterns in graphs, somewhat informally. Later, we'll discuss what it takes to formalize them.

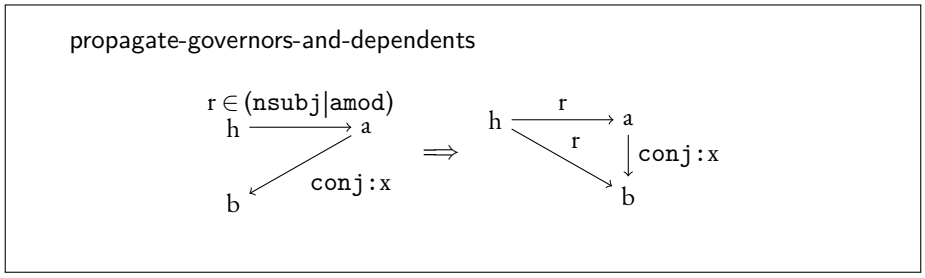
augmented-modifiers



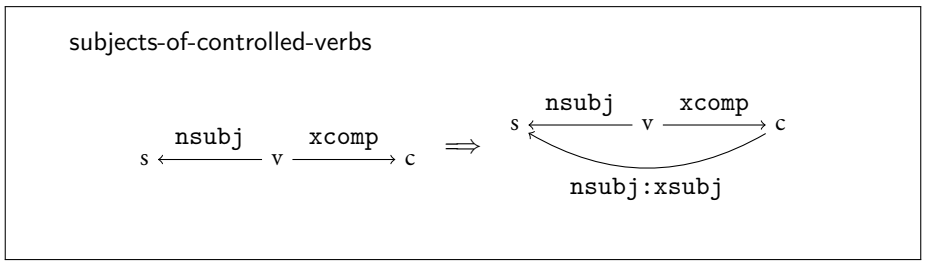
augmented-conjuncts



Note: this one has an additional condition; that if two `cc` relations come out of the same node, the one that's used is the one whose target precedes c, or the first one to appear if none do (cf. the source of CoreNLPP, at `src/edu/stanford/nlp/trees/UniversalEnglishGrammaticalStructure.jav` in the commit `3499d27e615c35702f23948e886a7389b5695c33`: "In case multiple coordination marker[s] depend on the same governor[,] the one that precedes the conjunct is appended to the conjunction relation or the first one if no preceding marker exists."). Importantly, this means *sentence word order is still relevant at this stage*. So we should consider a graph for that order as well, and our language will have to be enhanced to account for such conditions.



(Not complete; case for verbs is missing)



2 Formalization

The graph rewriting rules presented by Schuster are apparently just pairs of graphs. But there's more to it. For one, there's a matter of binding: variables in the right-hand side (RHS) of the rules are *references*, whereas the ones in the left-hand side (LHS) are *introductions*. That is, the intended semantics of the rule requires us to pattern-match the LHS to subgraphs of an argument sentence, and then replace it with the RHS with the corresponding variables replaced by the values bound to them by the matching.

Besides, there's the matter of additional conditions not expressible, apparently, as graph matching. Look at augmented-conjuncts; there, there's a restriction so that the pattern can only match the closest node connected to a via `cc` is the one that's used.