

(P) A Matter of Horn Clauses (1/1)

P1. Rules:

$V(\text{help}).$
 $V(\text{let}).$
 $N(\text{John}).$
 $N(\text{Kim}).$
 $S(xy) :- V(x), N(y).$
 $S(xy) :- S(x), S(y).$

Sample derivation:

$S(\text{let Kim}) :- V(\text{let}), N(\text{Kim}).$
 $S(\text{let John}) :- V(\text{let}), N(\text{John}).$
 $S(\text{let Kim let John}) :- S(\text{let Kim}), S(\text{let John}).$
 $S(\text{help John}) :- V(\text{help}), N(\text{John}).$
 $S(\text{help John let Kim let John}) :- S(\text{help John}), S(\text{let Kim let John}).$

P2. Rules:

$N(\text{Jan}).$
 $N(\text{Hans}).$
 $Ddat(\text{em}).$
 $Dacc(\text{de}).$
 $Vdat(\text{h\u00e4lfe}).$
 $Vacc(\text{laa}).$
 $VP(xy, z) :- Ddat(x), N(y), Vdat(z).$
 $VP(xy, z) :- Dacc(x), N(y), Vacc(z).$
 $VP(wy, xz) :- VP(w, x); VP(y, z).$
 $S(xy) :- VP(x, y).$

Sample derivation:

$VP(\text{em Jan}, \text{h\u00e4lfe}) :- Ddat(\text{em}), N(\text{Jan}), Vdat(\text{h\u00e4lfe}).$
 $VP(\text{em Hans}, \text{h\u00e4lfe}) :- Ddat(\text{em}), N(\text{Hans}), Vdat(\text{h\u00e4lfe}).$
 $VP(\text{em Jan em Hans}, \text{h\u00e4lfe h\u00e4lfe}) :- VP(\text{em Jan}, \text{h\u00e4lfe}), VP(\text{em Hans}, \text{h\u00e4lfe}).$
 $VP(\text{de Hans}, \text{laa}) :- Dacc(\text{de}), N(\text{Hans}), Vacc(\text{laa}).$
 $VP(\text{de Hans em Jan em Hans}, \text{laa h\u00e4lfe h\u00e4lfe}) :- VP(\text{de Hans}, \text{laa}), VP(\text{em Jan em Hans}, \text{h\u00e4lfe h\u00e4lfe}).$
 $S(\text{de Hans em Jan em Hans laa h\u00e4lfe h\u00e4lfe}) :- VP(\text{de Hans em Jan em Hans}, \text{laa h\u00e4lfe h\u00e4lfe}).$

