

# Challenges of Hierarchical Model

- Very high number of extractable rules.
  - Limited by ad-hoc constraints:
    - Initial phrases  $\leq 10$  words.
    - Rules  $\leq 6$  symbols.
    - At least one aligned terminal required.
    - At most two non-terminals, non-adjacent.
- Spurious ambiguity.
  - = many ways to obtain the same output.
  - Pollutes n-best lists.
- LM is a non-local feature.
  - Causes serious state splitting  $\Rightarrow$  Search space much larger.
- ... Plus hierarchical model is not a syntactic model.
  - With a special treatment of unaligned words, a regular PBMT system can reach most of hierarchical hypotheses (Auli et al., 2009).