



Transition-Based Parsing with Multiword Expressions

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- The spanning tree assumption in dependency parsing
 - Every **token** is a **node** of the dependency tree
 - MWEs handled in preprocessing (if at all)
- Transition-based dependency parsing
 - Transition system for deriving dependency trees
 - Model for scoring possible transitions
 - Algorithm for finding the optimal transition sequence
- What if we give up the spanning tree assumption?



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- Parser configuration

- A buffer of input **tokens**
- A stack of tree **nodes**
- A set of dependency **arcs**

node = list of tokens

Shift:	$(S, w B, A)$	\Rightarrow	$(S [w], B, A)$
Chunk:	$(S u, w B, A)$	\Rightarrow	$(S [u w], B, A)$
Right-Arc:	$(S u v, B, A)$	\Rightarrow	$(S u, B, A[u \rightarrow v])$
Left-Arc:	$(S u v, B, A)$	\Rightarrow	$(S v, B, A[v \rightarrow u])$