

Original LFG:  
C-structure rules with regular right-hand sides allow for  
considerable flexibility

Concatenation, Union, Kleene-closure

$$VP \longrightarrow V (NP) (NP) \left( \left\{ \begin{array}{c} AP \\ VP \end{array} \right\} \right) PP^* (S)$$

Possible because of factoring of syntactic information into  
different domains:

Subcategorization is not defined configurationally

Observe: Regular sets also closed under intersection and complementation

E.g., suppose that NP and S cannot cooccur:

$$VP \longrightarrow \boxed{V (NP) (NP) \left( \left\{ \begin{array}{c} AP \\ VP \end{array} \right\} \right) PP^* (S) } - \boxed{\Sigma^* NP \Sigma^* S \Sigma^*}$$

vs.

$$VP \longrightarrow V \left\{ \begin{array}{l} (NP) (NP) \left( \left\{ \begin{array}{c} AP \\ VP \end{array} \right\} \right) PP^* \\ \left( \left\{ \begin{array}{c} AP \\ VP \end{array} \right\} \right) PP^* (S) \end{array} \right\}$$

Boolean combinations of regular predicates:  
Factor generalizations, but  
don't change formal power or structural domain

ID:  $S \rightarrow [NP, VP]$  abbreviates  $S \rightarrow [VP^* NP VP^*] \cap [NP^* VP NP^*]$

LP:  $NP < VP$  abbreviates  $\neg[\Sigma^* VP \Sigma^* NP \Sigma^*]$

$S \rightarrow NP VP$  can be factored to  $S \rightarrow [ NP, VP ] \cap [ NP < VP ]$

## Ignore Adverbs

$VP \rightarrow V [(NP) (NP) PP^* (VP) (S)]/ADVP$

Equivalent, but misses a generalization:

$VP \rightarrow V ADVP^* (NP) ADVP^* (NP) \left\{ \begin{array}{c} ADVP \\ PP \end{array} \right\}^* (VP) ADVP^* (S)$

$[A B]/C$

