

CCGs to Encode Syntax at Each Token

Syntax reflects long-distance dependencies.

- What city is the Taj Mahal **in**?
- Where is the Taj Mahal \emptyset ?

The need to produce **in** depends on the *What/Where*.

- CCG tags for **is** differ \Rightarrow dependency highlighted.
- Following CCG tags, the decoder can **know** if *in* is needed.
- CCG tags are denser than words \Rightarrow better generalization.
- $\text{What}_{(S_{[wq]}/(S_{[q]}/NP))/N}$ city $\text{is}_{(S_{[q]}/P\ P)/NP}$ the Taj Mahal in?
- $\text{Where}_{S_{[wq]}/(S_{[q]}/NP)}$ $\text{is}_{(S_{[q]}/NP)/NP}$ the Taj Mahal?