**Our Task**

Learn sentence planning rules as tree-to-tree mappings
- Use existing tools for surface realization
- Treat sentence planning as synchronous derivation
- Use simple linguistic priors to guide the search

**Representations for Sentence Planning**

**Input for Sentence Planning:**
*Text Plans*: trees encoding propositions and discourse structure

**Output for Sentence Planning:**
*Logical Forms*: OpenCCG’s input representation
- For the CCGbank-derived grammar, LFs resemble lemmatized dependency parses with morphosyntactic annotations.

**Our Pipeline**

**Novel Gibbs Operators for Bayesian Inference**
- **split-and-align**: sample substitution sites in TP based on probability of resulting elementary tree pairs and alignments
- **sliding alignment**: consider moving the LF-side of each alignment up one level or to a child of the current alignment site

**Example Rules**

- Chanpen Thai has the best overall quality among the selected restaurants. Its price is 24 dollars and it has good service. **This Thai restaurant** has good food quality, with decent decor.
- Since Komodo’s price is 29 dollars and it has good decor, it has the best overall quality among the selected restaurants.
- Azuri Cafe, **which** is a Vegetarian restaurant has very good food quality. Its price is 14 dollars. It has the best overall quality among the selected restaurants.
- Komodo has very good service. It has **food food quality**, with very good food quality, it has very good food quality and its price is 29 dollars.