

Computer Science

TRALE

CSC485/2501

November 26, 2021

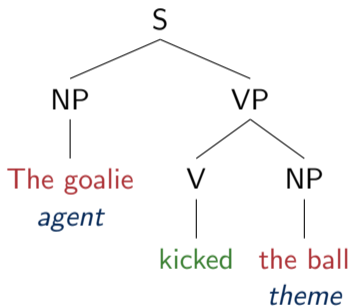
Outline

- Semantics vs agreement
- SubCat
- Gap and Movement
- Semantic head driven generation
- (Beta reduction and quantifier)

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The Active Voice

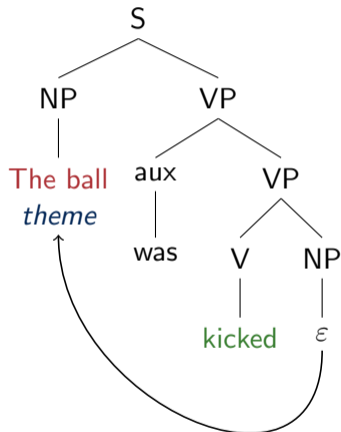
The goalie kicked the ball.



sem:(kick, agent:goalie, theme:ball)

The Passive Voice

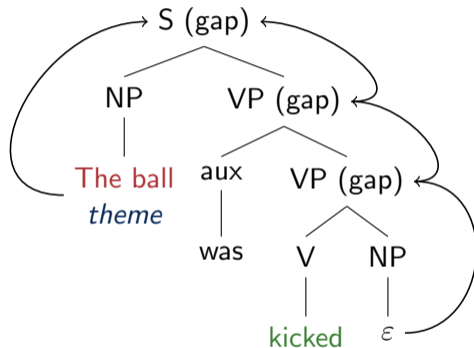
The ball was kicked.



sem:(kick, agent:?, theme:ball)

The Passive Voice

The ball was kicked.



sem:(kick, agent:?, theme:ball)

Semantic Head Driven Generation: TLDR

TLDR: Replace `cat>` with `sem_head>` on all the semantic heads.

- An NP's semantic head is the N.
- A VP's semantic head is the V.
- A CLP semantic head is the CL.
- An S semantic head is the VP.

Semantic Head Driven Generation: Basic Idea

```
gen(s, sem:(kick, agent:goalie, theme:ball)).
```

- Top-down or bottom-up generator: too slow to traverse all of the possible rules.
- However, we can utilize the fact that the semantics (`sem`) of the **semantic head** is exactly the same as the product (left hand side).