

Let's experiment: which representation is easiest to read?

YARN is All You Knit: Encoding Multiple Semantic Phenomena with Layers

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What's the sentence?

Motivation

Logic based

- Expressive
- Hard to interpret

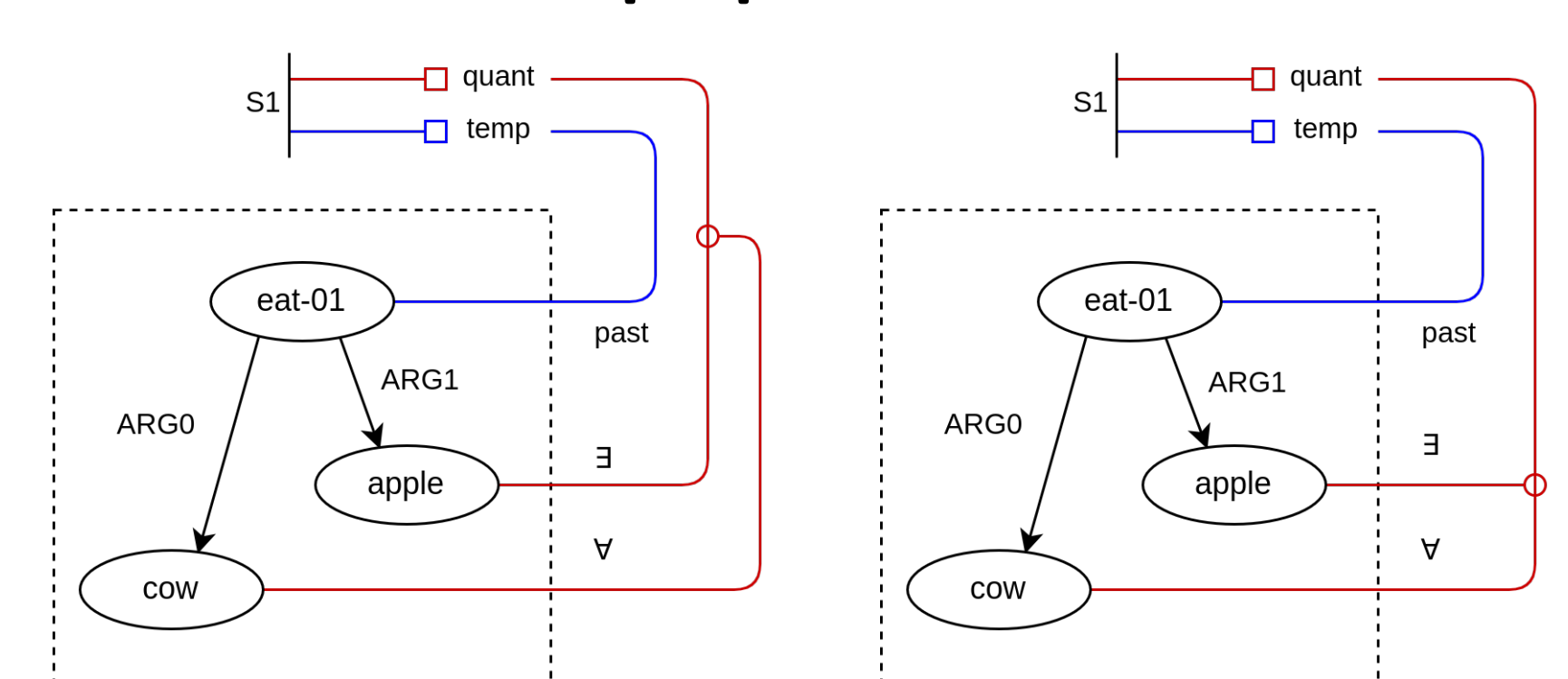
Graph based

- Easier to interpret
- Less expressive

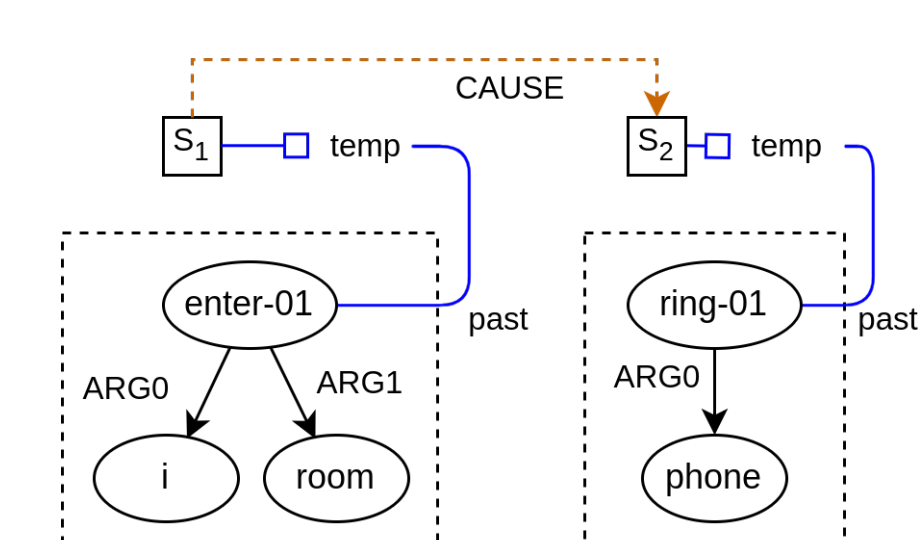
⇒ **Our proposal:** Represent each semantic phenomenon as a layer to keep expressivity and readability

Some Examples

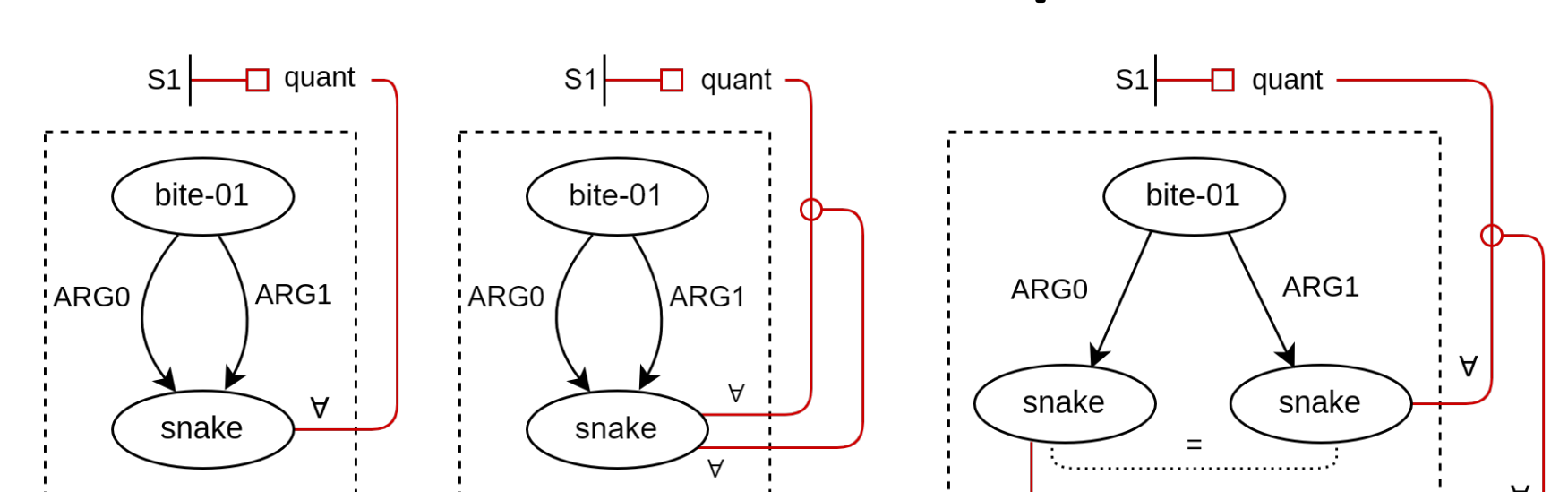
Scope precedence



Discourse relations



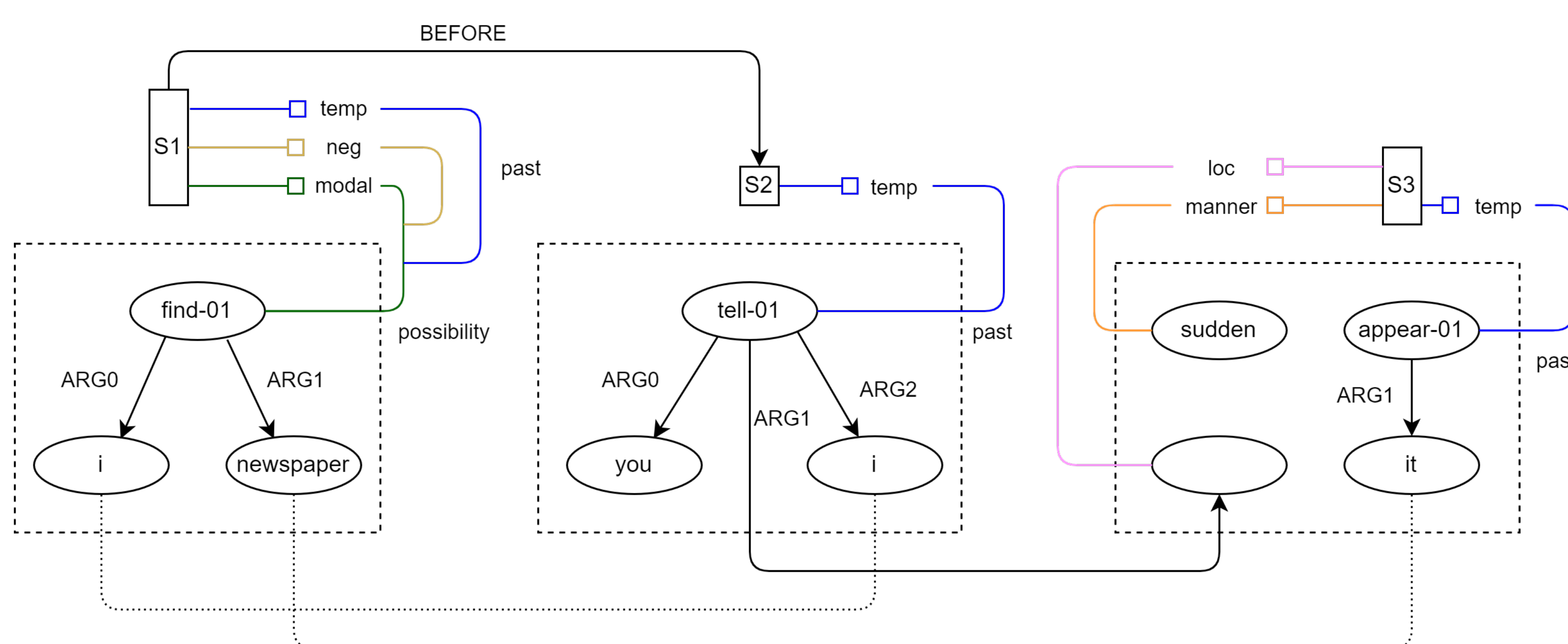
The bound variable problem



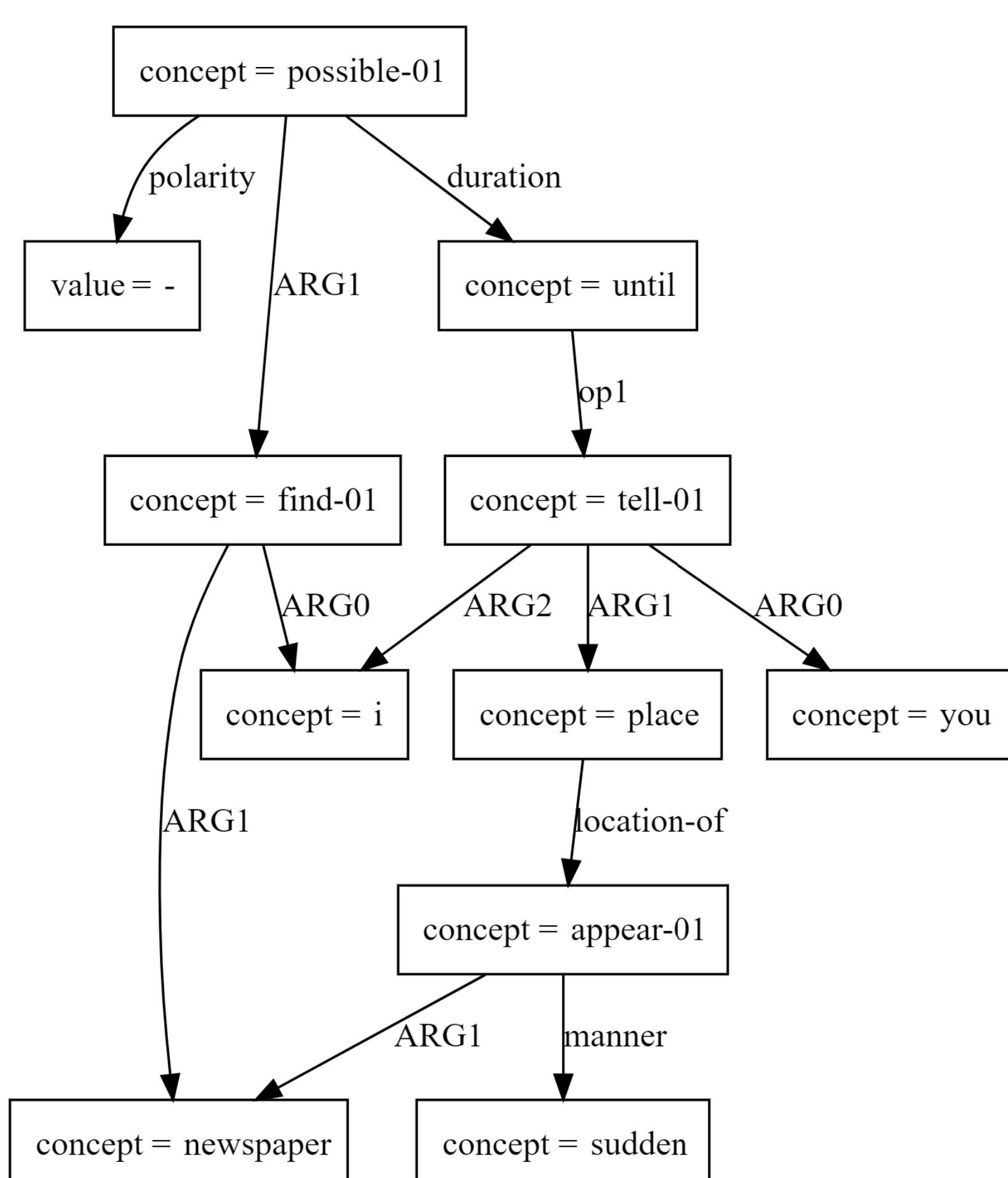
Future Work

- Corpus annotation
- Annotation tools
- Transformation experiments
- Expand list of phenomena
- Explore different sets of labels
- Exhaustive exploration of layer interactions

YARN



AMR



Logical Form

$$\exists e' t' e'' . \neg \Box find(e) \wedge$$

$$newspaper(n) \wedge$$

$$Agent(e, i) \wedge$$

$$Theme(e, n) \wedge$$

$$\tau(e) = t \wedge$$

$$tell(e') \wedge$$

$$Agent(e', you) \wedge$$

$$Recipient(e', i) \wedge$$

$$Topic(e', l) \wedge$$

$$\tau(e') = t' \wedge$$

$$appear(e'') \wedge$$

$$Agent(e'', n) \wedge$$

$$Location(e'', l) \wedge$$

$$suddenly(e'') \wedge$$

$$t < t' \wedge$$

$$start(t') = end(t') \wedge$$

$$end(t) = start(t')$$
