1. Polysynomic nouns and the "quantification puzzle"

Inherently polysynomic noun such as 'book' provide referential access to both a physical and an informational object.

(1) a. John read the book.
   b. John took the book from the shelf.

We assume 'book' to refer to entities of type (physical)-obj ect) which have an attribute content whose value is of type information.

The quantification puzzle (Asher & Pustejovsky, 2006):

(2) a. John carried off every book in the library.
   b. John read every book in the library.

While (2a) poses no problem since the domain of quantification consists of physical entities, it not obvious how to cope with (2b), which is naturally interpreted as quantifying over all contents of the books in the library.

2. Basic analysis: Combine LTAG with frame semantics

Semantic frame for (1a) according to Babonova et al. (2016), contribution of book in blue:

3. Basic analysis: Combine LTAG with frame semantics

We use hybrid logic to describe frames:

4. Copredication and quantification

5. Further issues

- Functionality of the relation from books (physical obj ect) to inform. contents (Asher, 2011)
- Interaction of copredication and counting (Gatham, 2017)
- Flexibility of copredication (Retore, 2014)

References: