

# What Can the Ontology Describe?

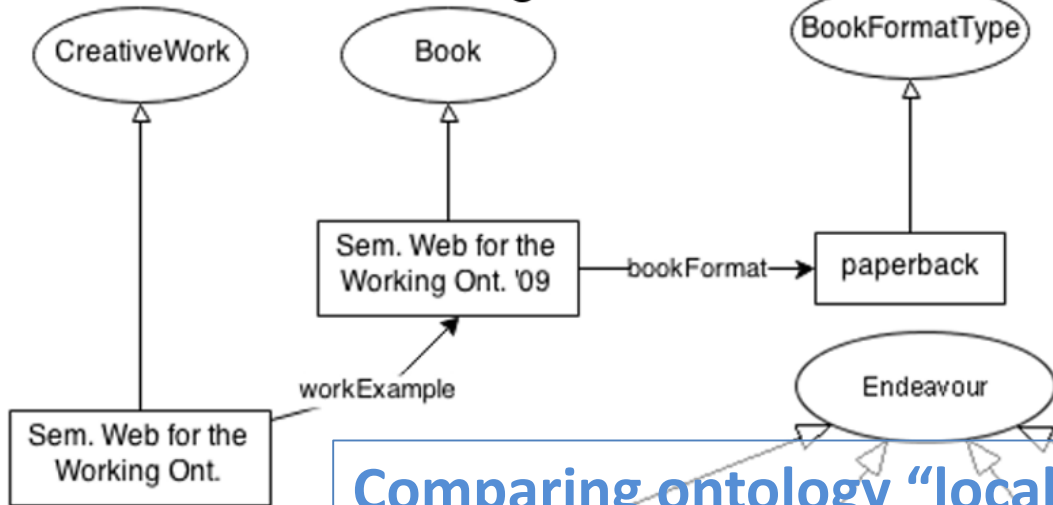
## Visualizing Local Coverage in PURO Modeler

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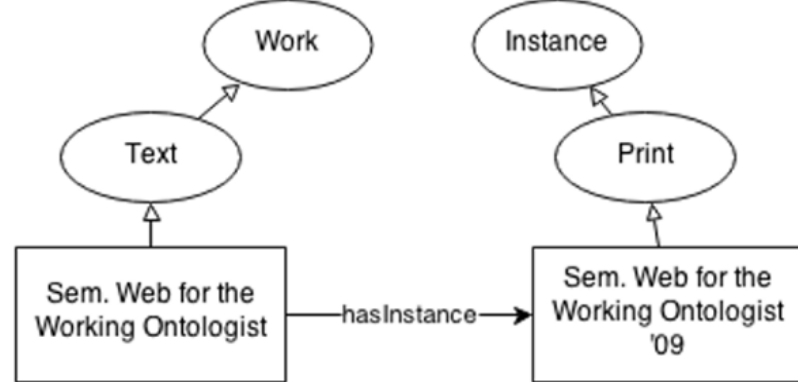
# What We Mean by Local Coverage

- How (well) can the ontology describe a specific “cluster of relationships”
  - Such as the relationship between a book and its paperback issue
  - Not analyzing the coverage of, e.g., the whole bibliography domain

(a) Schema.org

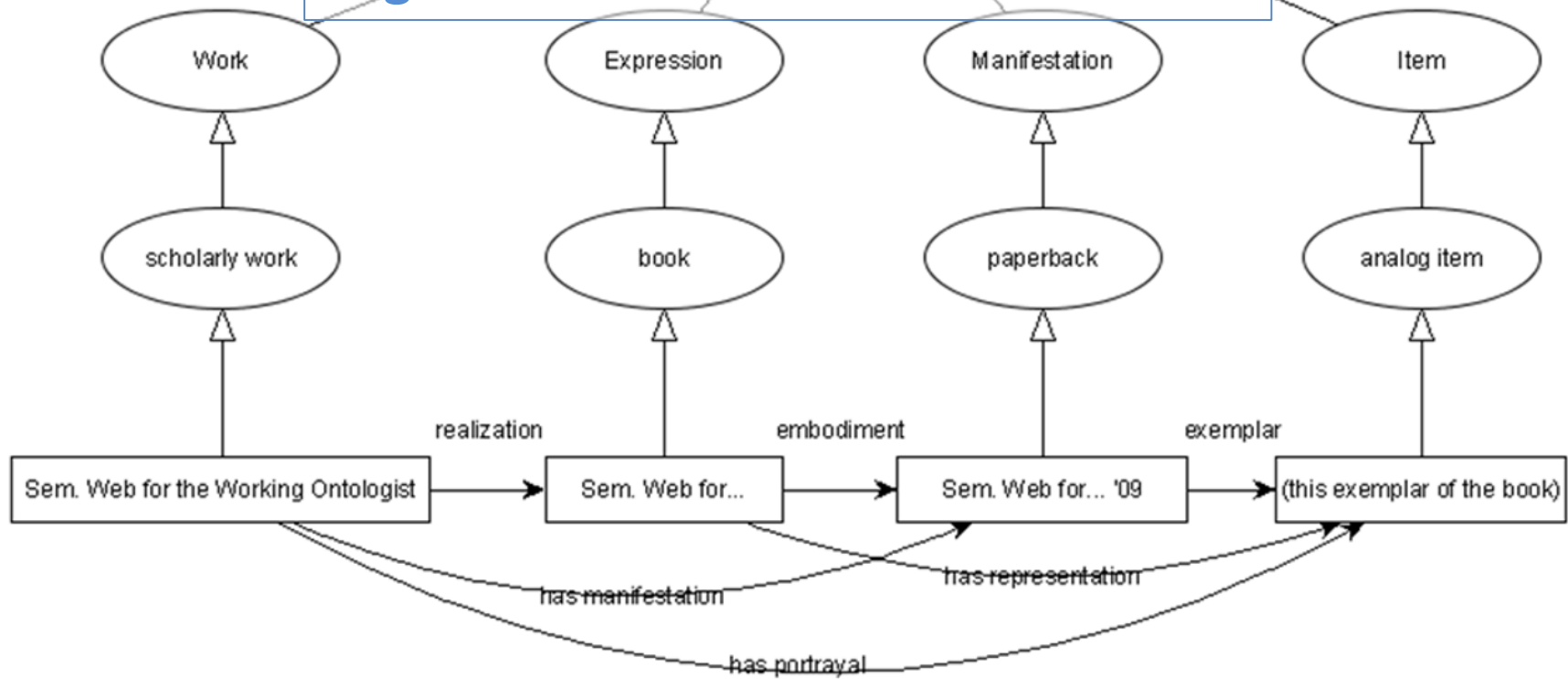


(b) BIBFRAME



Comparing ontology "local coverage" might be difficult...

(c) FRBR



# Why Is It Difficult?

- Each ontology might be using different OWL constructs to represent the same real world relationship or entity
- The user has to abstract from those differences in his mind
  - Or use some tool

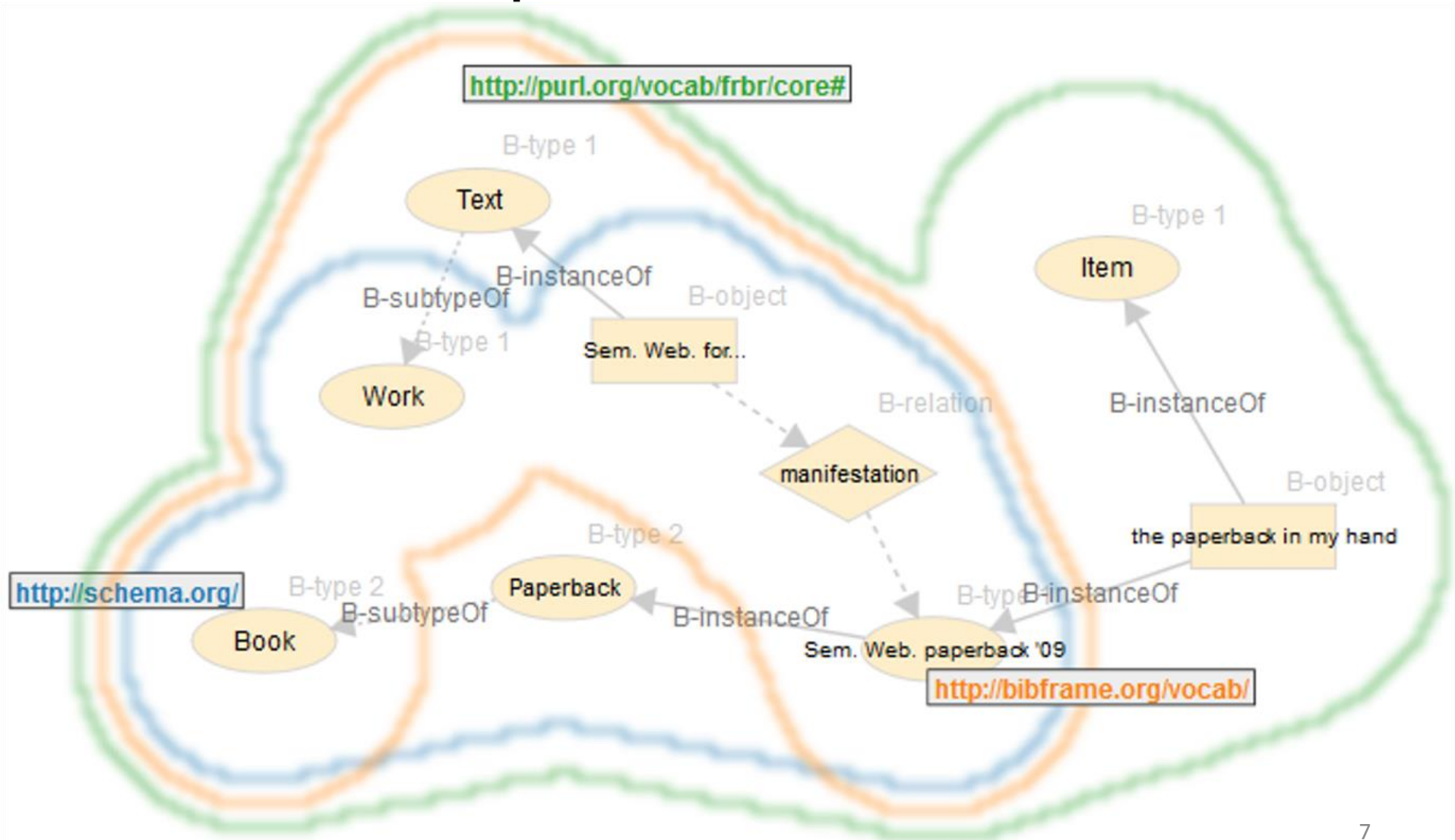
# Making the Local Coverage Comparison Easier

- Visualize the real world situation using more general modeling language that allows to abstract from OWL modeling differences
  - We propose using PURO ontological background models (OBM) (Svátek et al., OWLED 2013)
- Mark parts of the model that each of the compared ontologies can describe
  - So that you can see the comparison in one place

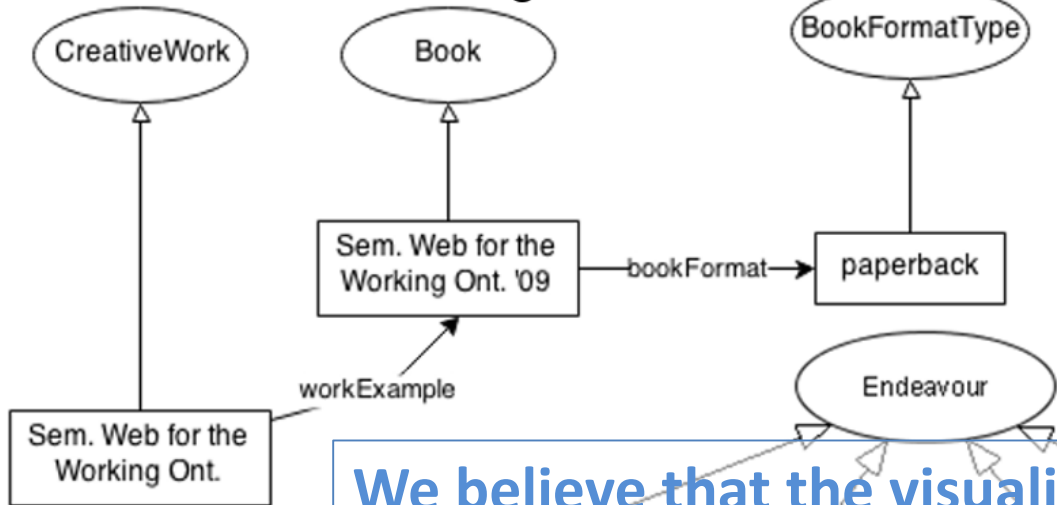
# PURO Language for OBMs

- For creating models “closer to the real world” while remaining “very close” to OWL
  - OBM always represents a (example of) specific situation, at the “instance level”
- Only an aid for ontological engineering – not a schema for data or input for reasoners;
  - No artificial constraints imposed by data processing requirements
- Based on Particular-Universal, Relationship-Object distinctions

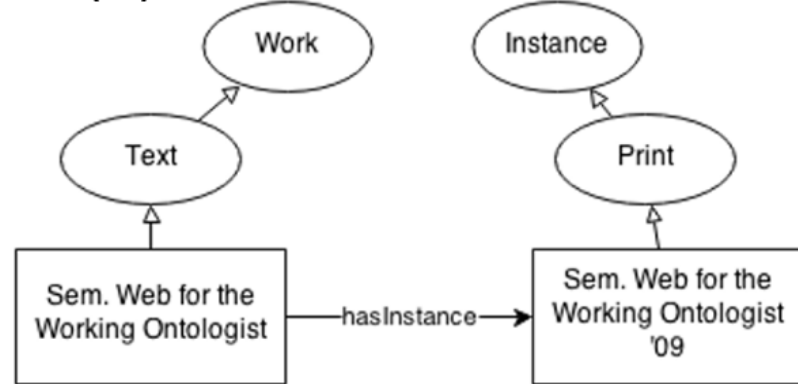
# Example of Local Coverage Comparison with OBM



(a) Schema.org

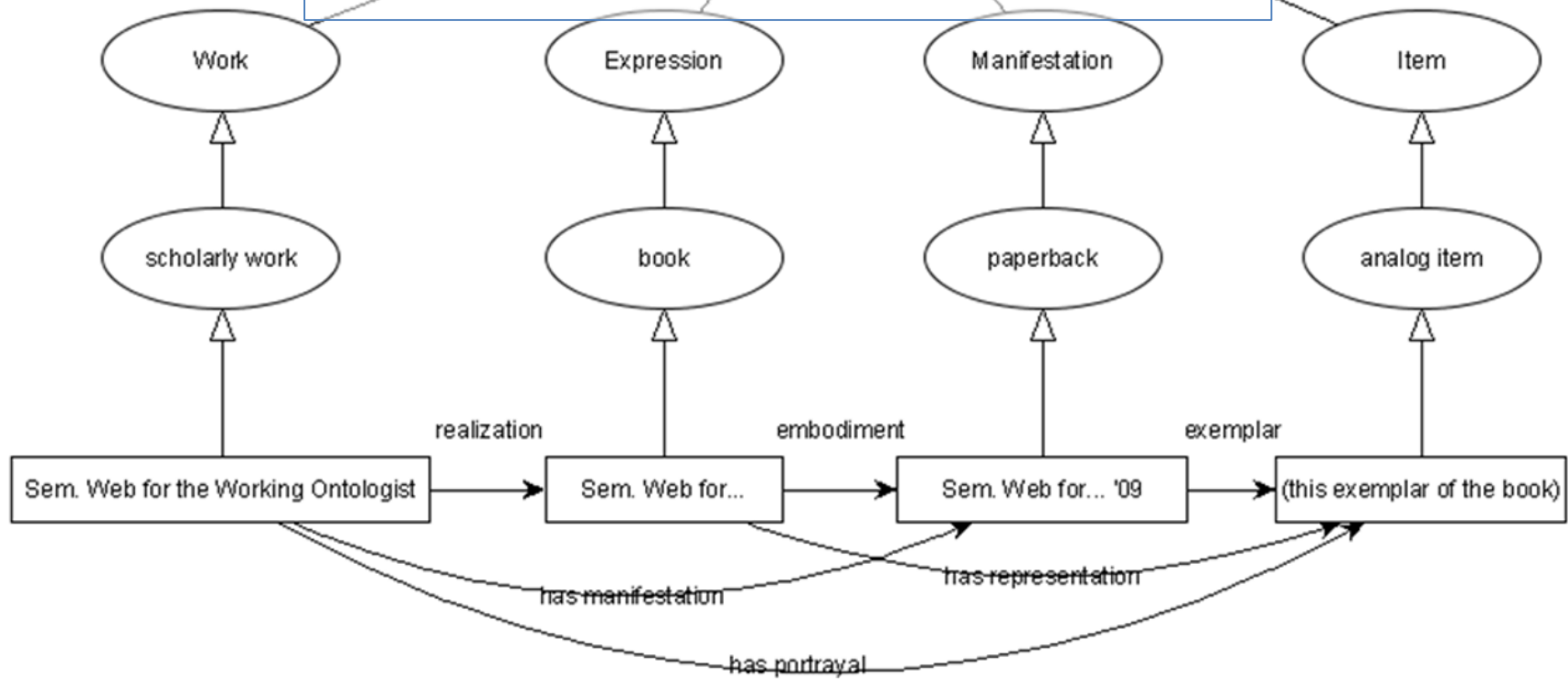


(b) BIBFRAME



**We believe that the visualization with OBM is more clear than this...**

(c) FRBR





# Web App for OBM Creation and Local Coverage Comparison

## PURO Modeler

Model: Food-Recipe2

New Save Save as... Load

**BType** <- instanceOf-Link ->

**BObject** <- Link ->

**BRelation** <- subTypeOf-Link ->

**BValuation**

**Move/Rename**

**Delete**

1a) Create the model from PURO terms

Double-click on a node or a link to rename it. You can also drag-drop nodes.

Vocabularies with implementation of selected nodes:

Add Remove

<http://schema.org/>

<http://data.lirmm.fr/ontologies/food>

<http://linkedrecipies.org/schema>

2) Select each node and check ontologies where it is "implemented"

Load an Existing Model:

Schema.org recipe

Food Ontology - food

Linked Recipes - recipe

1b) Or load an existing model

3) See the model where the parts "covered" by each ontology are highlighted



# Future Work

- Guidelines for OBM creation
- A portal for sharing OBMs
  - Possibly including the local coverage comparison

# Thanks for your attention

- Questions?
- References
  - Svátek, V., et al.: Metamodeling-Based Coherence Checking of OWL Vocabulary Background Models. In: OWLED 2013.