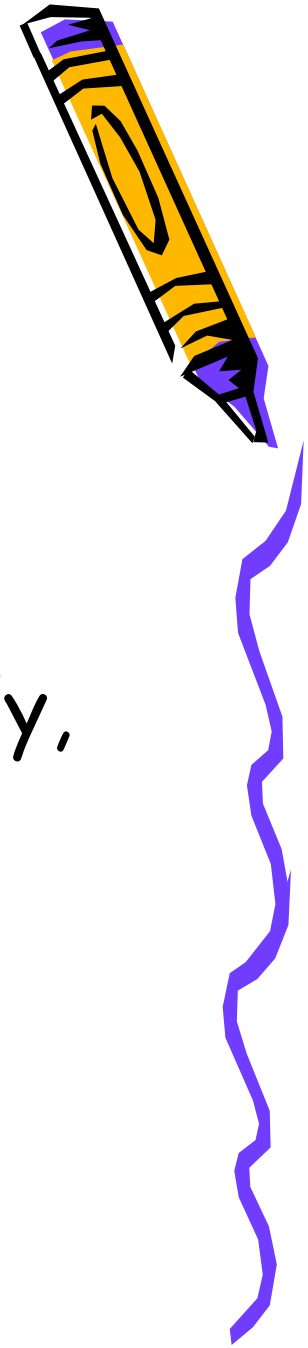
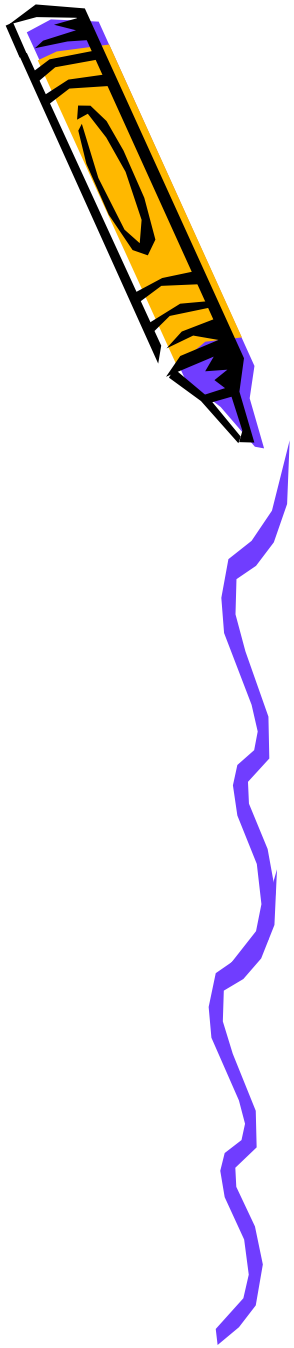
Ontology and semantic web



- Ontology as "Onto": Being, "logia": discourse, reasoning
- Ontology in philosophy : being study, his properties and modalities (Aristotle, Cohen, Meyer)

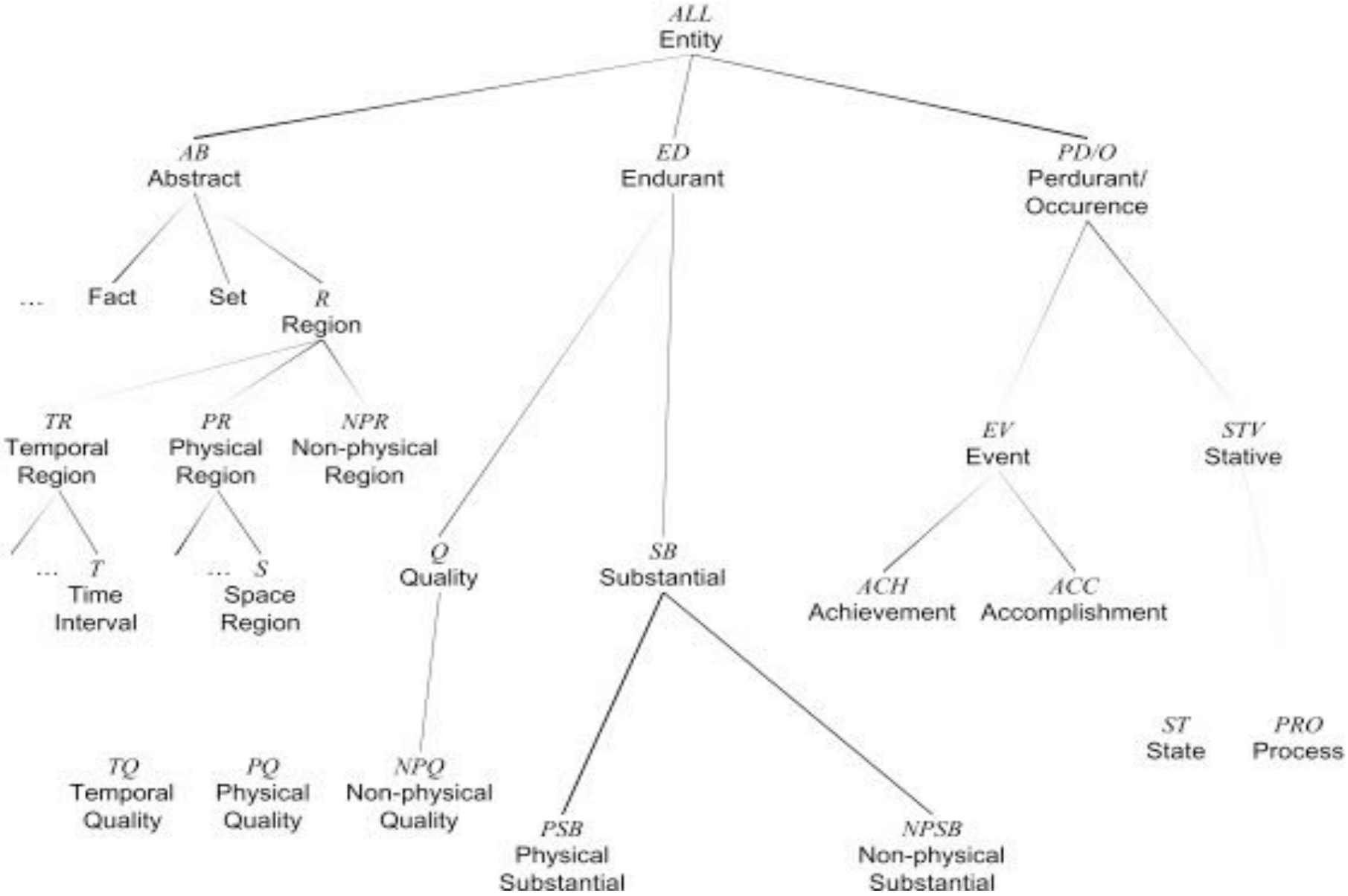
Several levels of Ontology (Guarino)



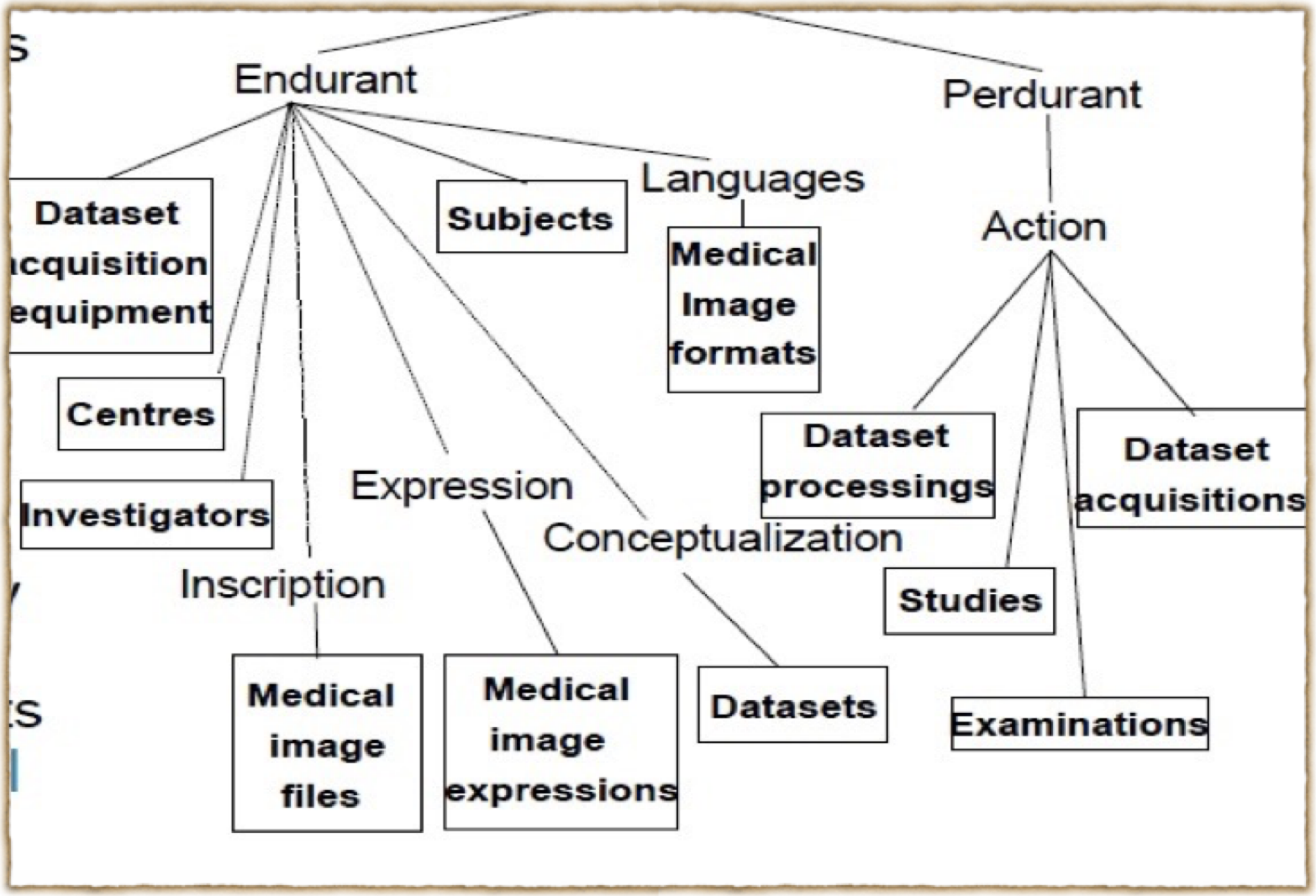
- Ontology as Guides to model domain:

- top level, Domain level and Application level

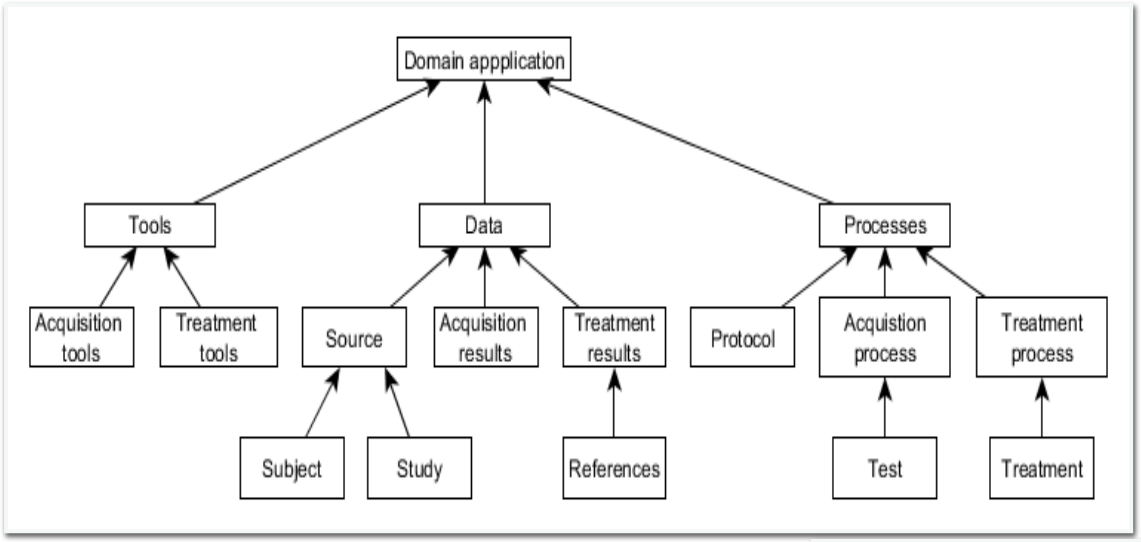
Top level (Guarino)

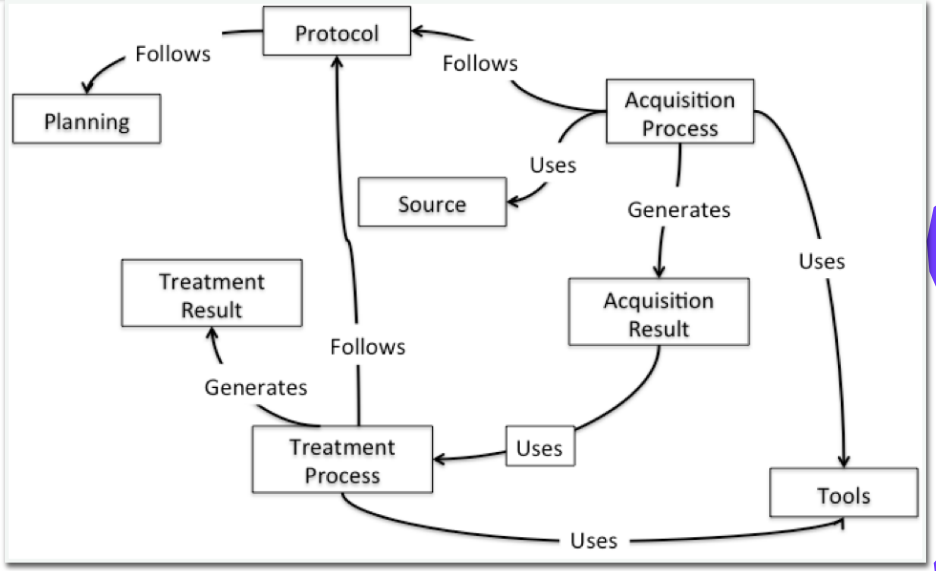


Domain level (Bio-imaging Ontology)

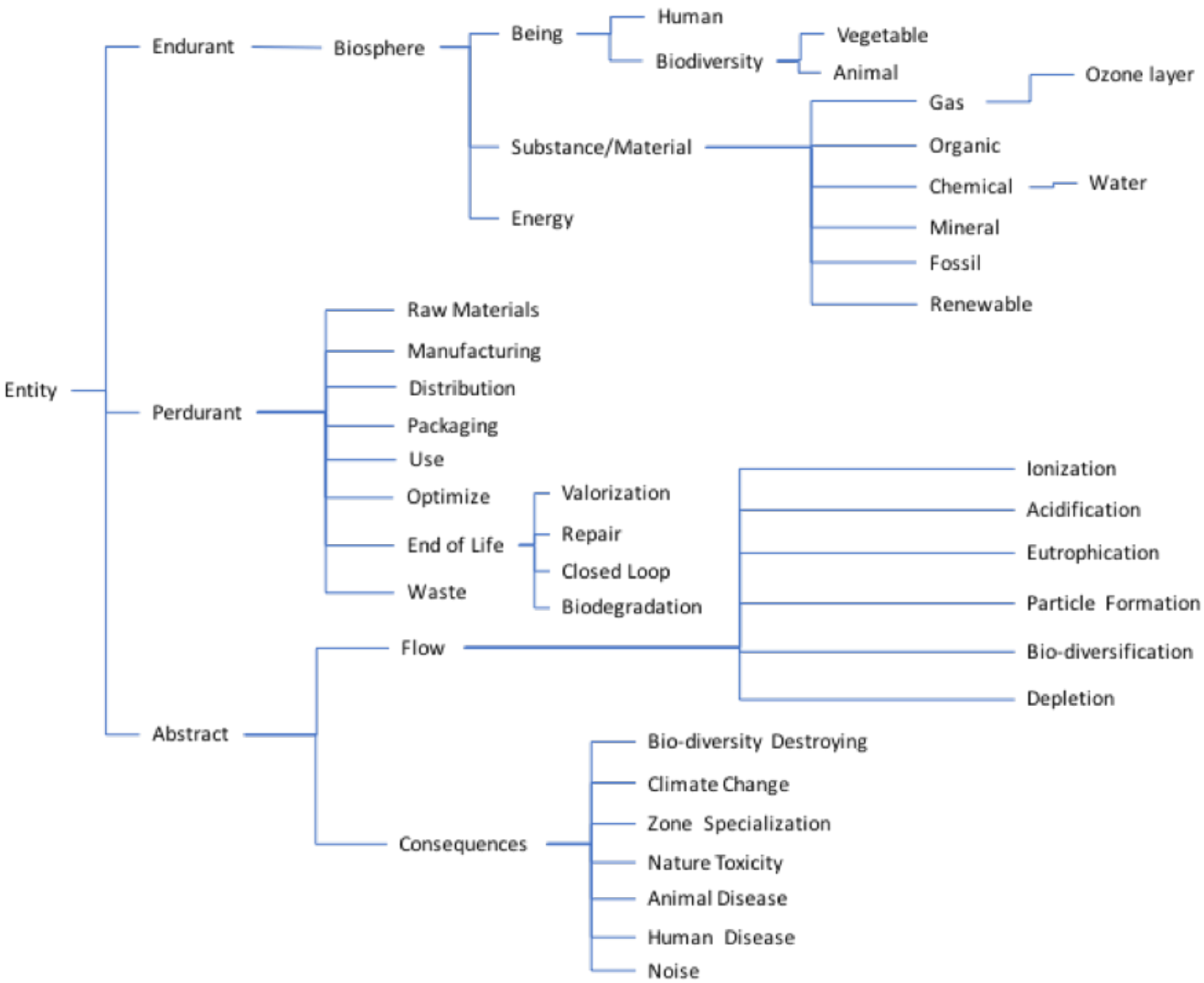


Application level (Gin Lab)

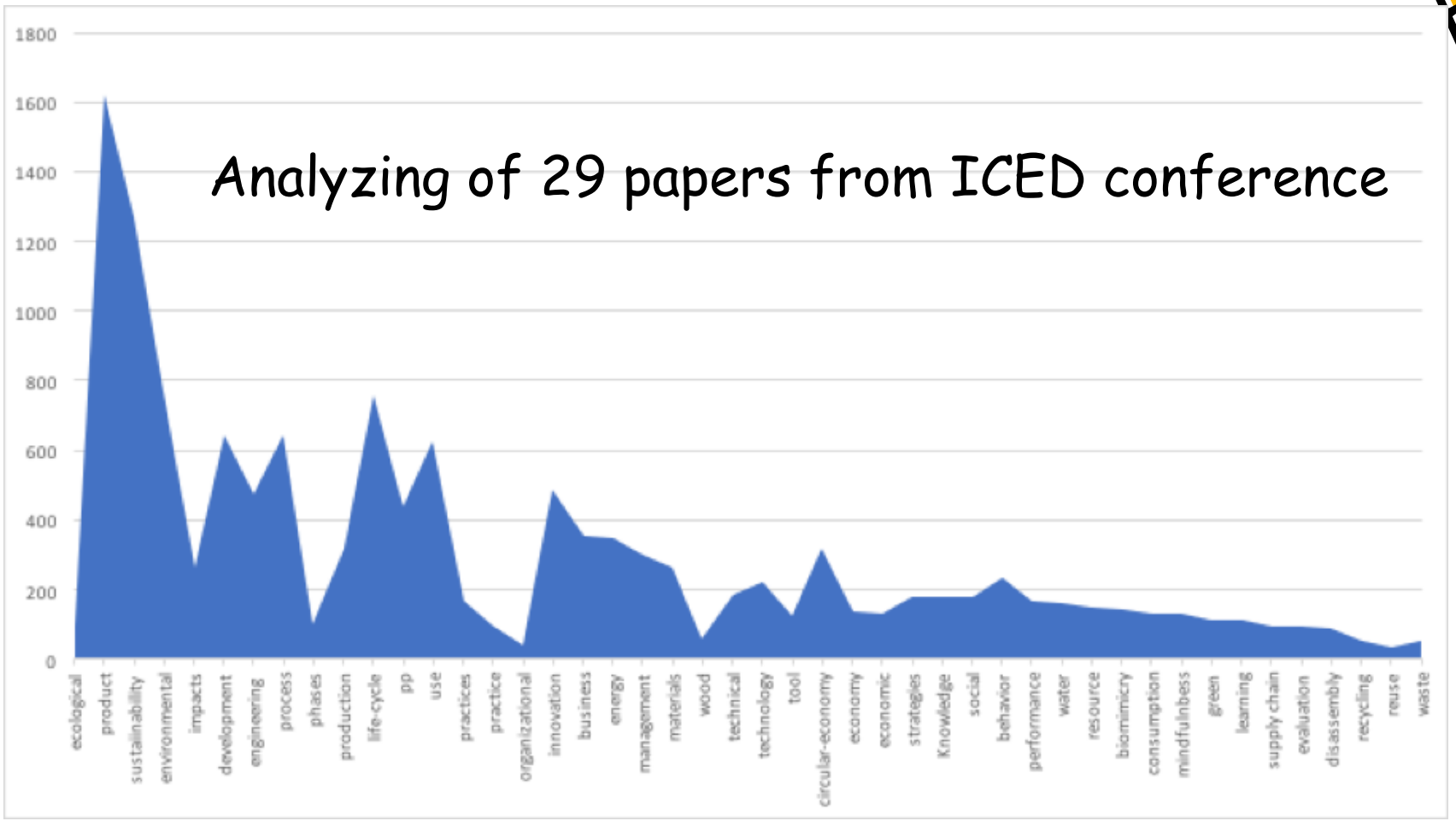




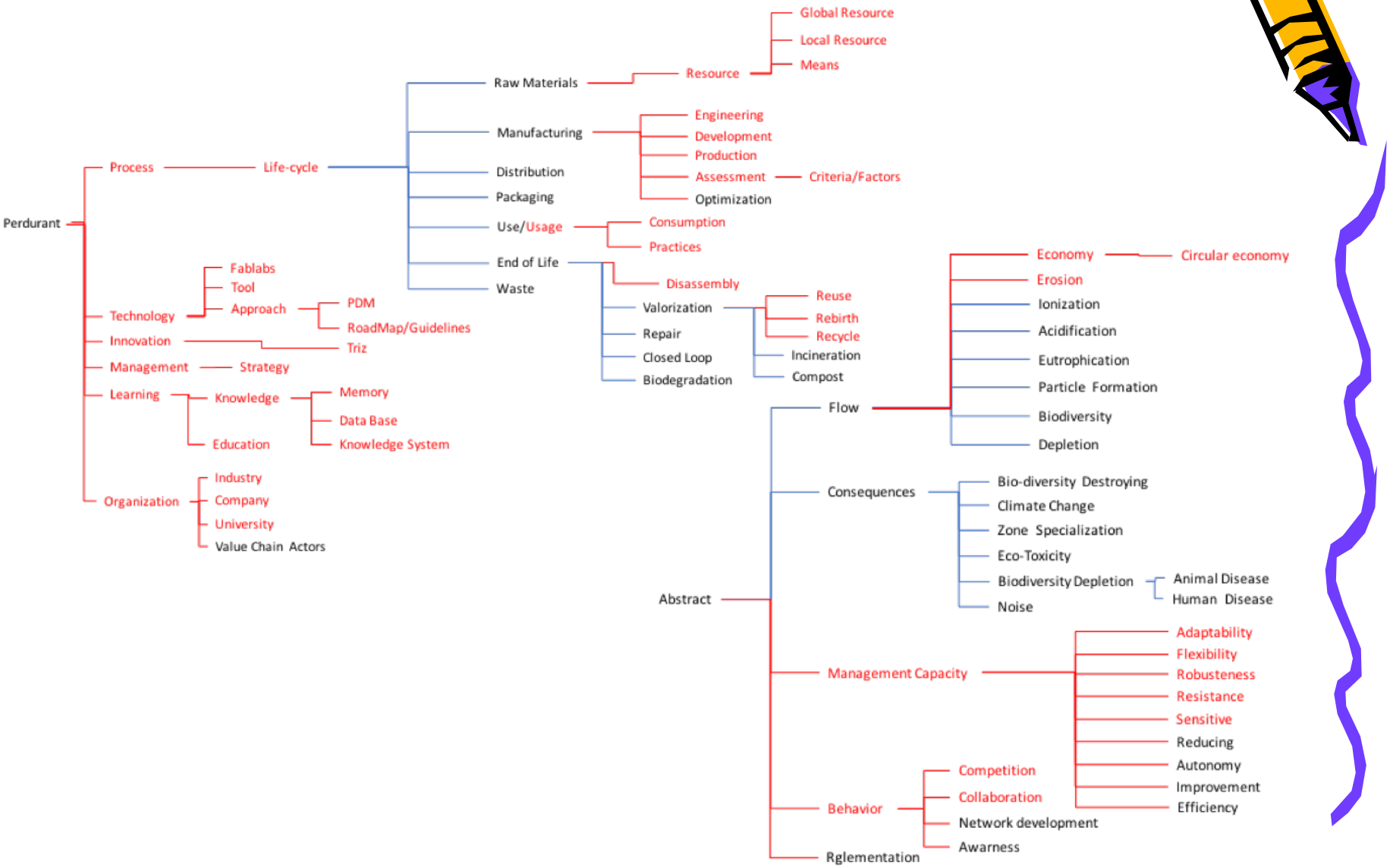
Example Definition of Ontology on Eco-design with the expert



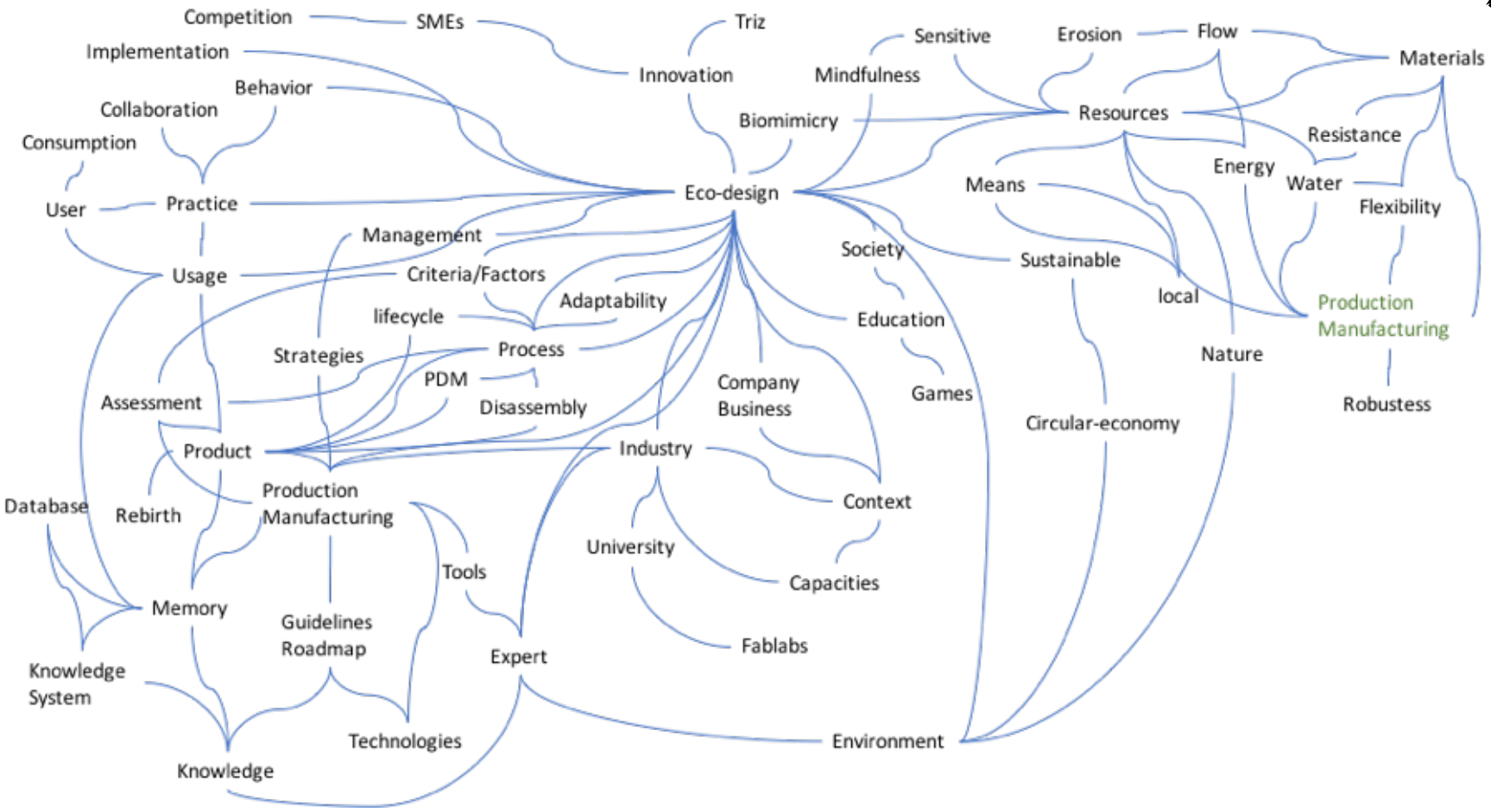
Extraction from documents using TextMining tools (Voyant-tools, Gate)



Enriching expert ontology

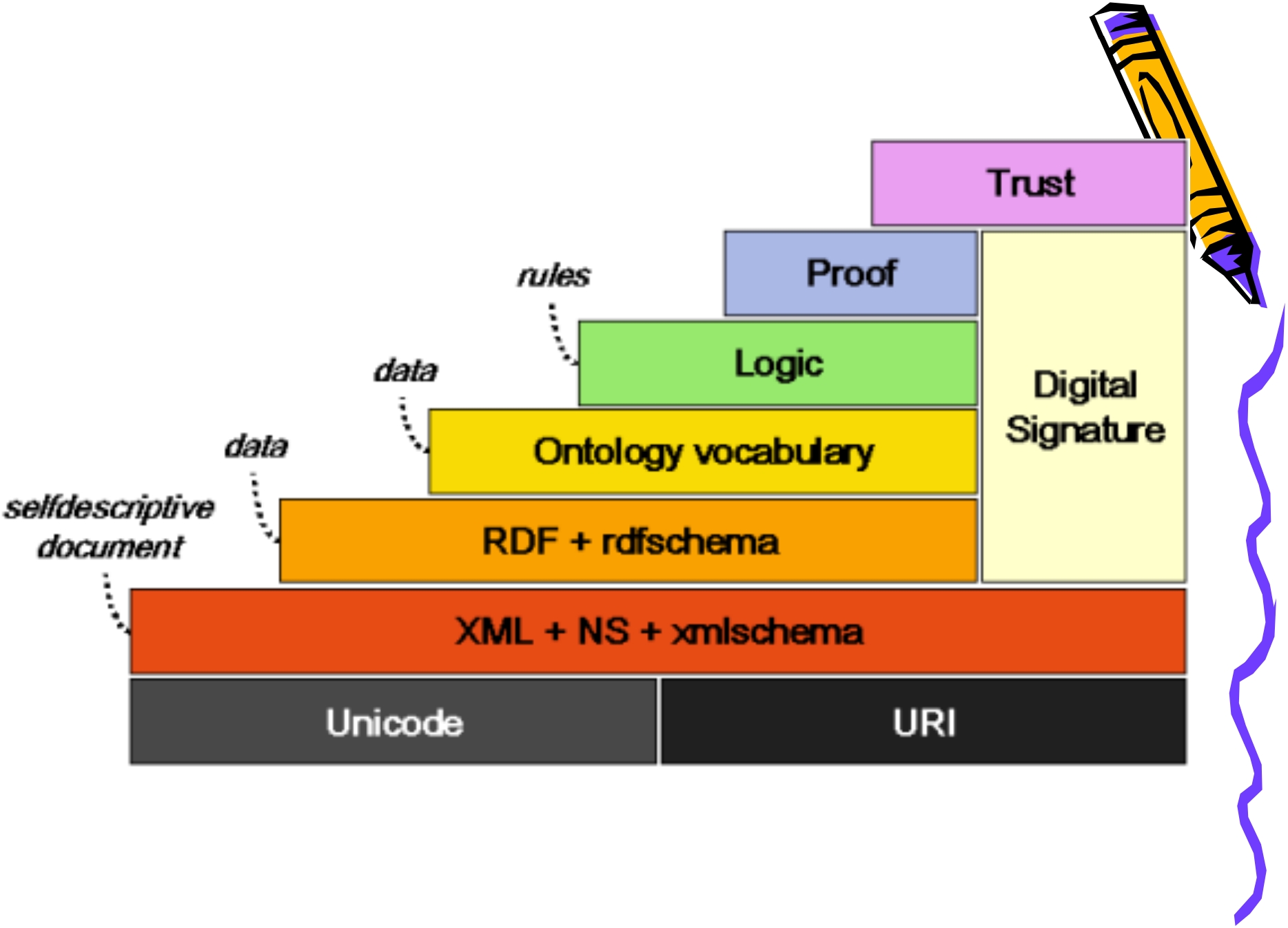


Enriching expert ontology

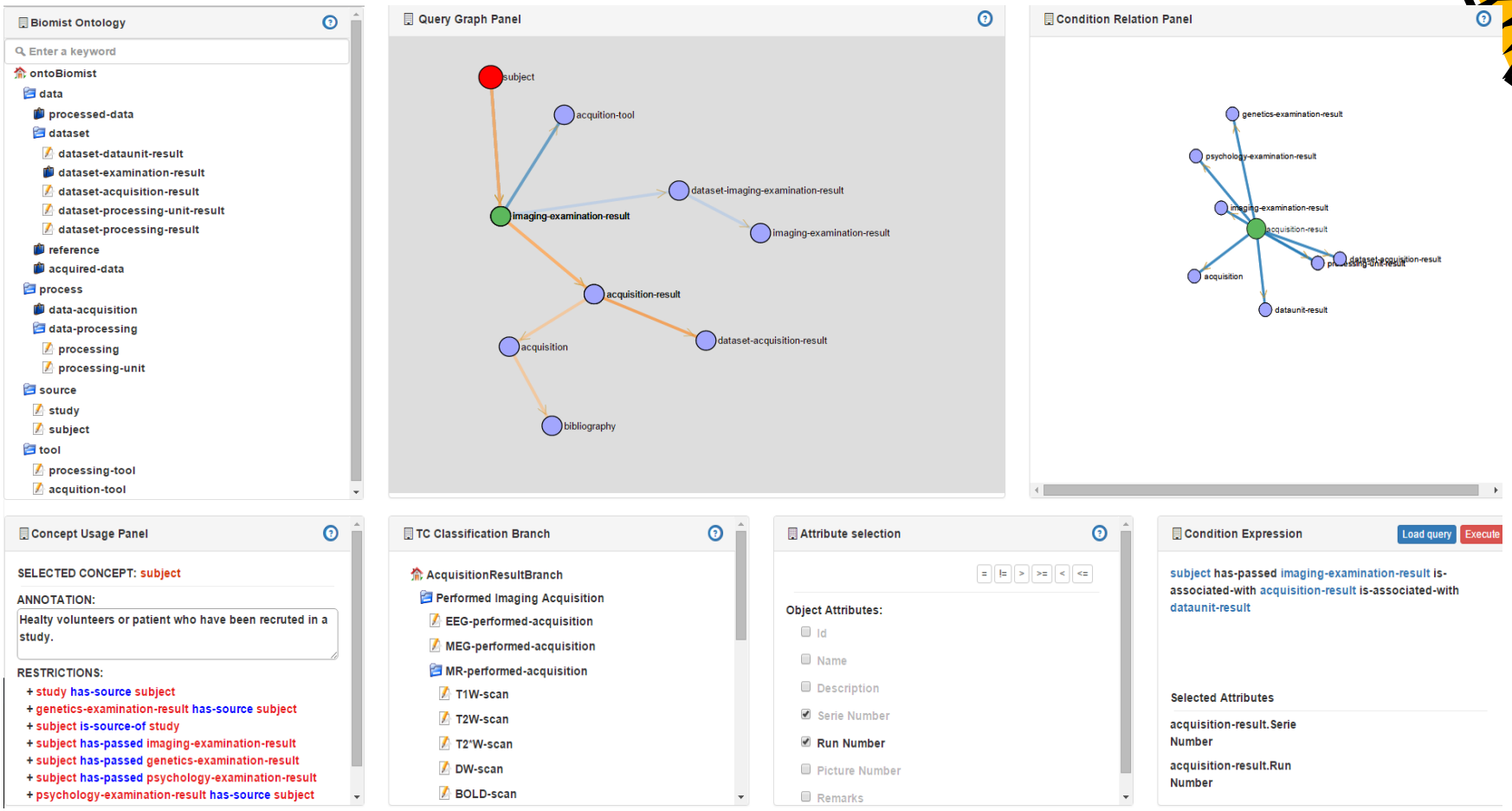


Semantic Web [Berners-Lee]

- The **Semantic Web** is an evolving extension of the World Wide Web in which the semantics of information and services on the web is defined, making it possible for the web to understand and satisfy the requests of people and machines to use the web content.

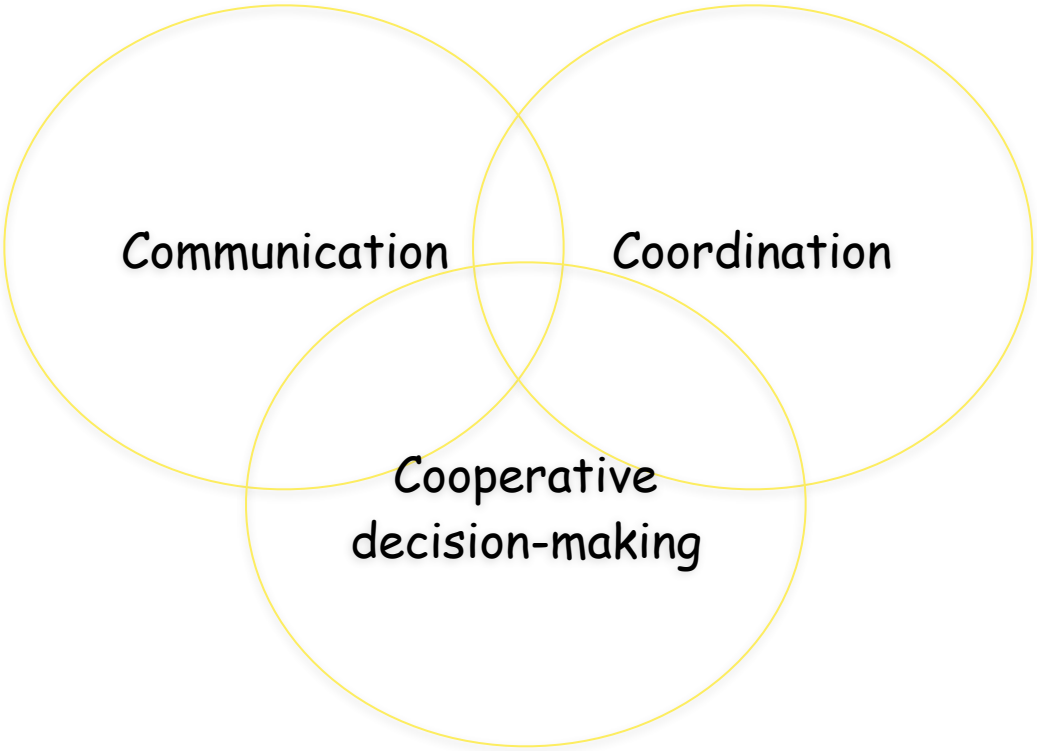

Trust
Proof
rules
Logic
data
Ontology vocabulary
data
RDF + rdfschema
selfdescriptive document
XML + NS + xmlschema
Unicode
URI
Digital Signature

Example of Ontology Use (Cuong, 2016)



Implementation

- Languages:
  - RDF, SPARQL… (https://www.w3.org/RDF/)
  - OWL (https://www.w3.org/2001/sw/wiki/OWL)
- Representing and inference systems
  - Protege (http://protege.stanford.edu/)
  - Corese (http://wimmics.inria.fr/corese)

Cooperative activity

A cooperative (collaborative) activity is an activity handling concurrently by a group of actors having the same goal (Schmidt et al)