

# Biological pathway abstractions

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Propositions accompanying the PhD-thesis

# BIOLOGICAL PATHWAY ABSTRACTIONS: FROM TWO-DIMENSIONAL DRAWINGS TO MULTIDIMENSIONAL LINKED DATA

Andra Waagmeester, 16 January 2024

1. A domain expert is a knowledge repository without explicit provenance of the content.
2. Graphical representations of biological pathways contains intuitively understandable domain expert knowledge.
3. For a linked-data cloud, the infrastructure is the elephant in the room.
4. Wikidata is not a community. It is a community of communities where different communities can have conflicting cultures regarding data patterns.
5. The lack of fine-grained ontologies and controlled vocabularies hinders the adoption of RDF.
6. SPARQL is easy because it follows the Subject-Verb-Object word order common in English.
7. An RDF dataset reflects the limitation of the knowledge of its biocurators.
8. Linked data requires linked communities, linked infrastructure, and linked funding.
9. Ontologies reflect facts, and Schemas reflect data about facts.
10. Shape Expressions are documentation of data by the creator and expressions of client expectations. In an ideal world, these two align.
11. In a time when AI skyrockets, it is good to remember that when curation is a fully automated process, it becomes a contradiction in terms.