Challenges on transforming data in **RDA** vocabulary to **BIBFRAME**

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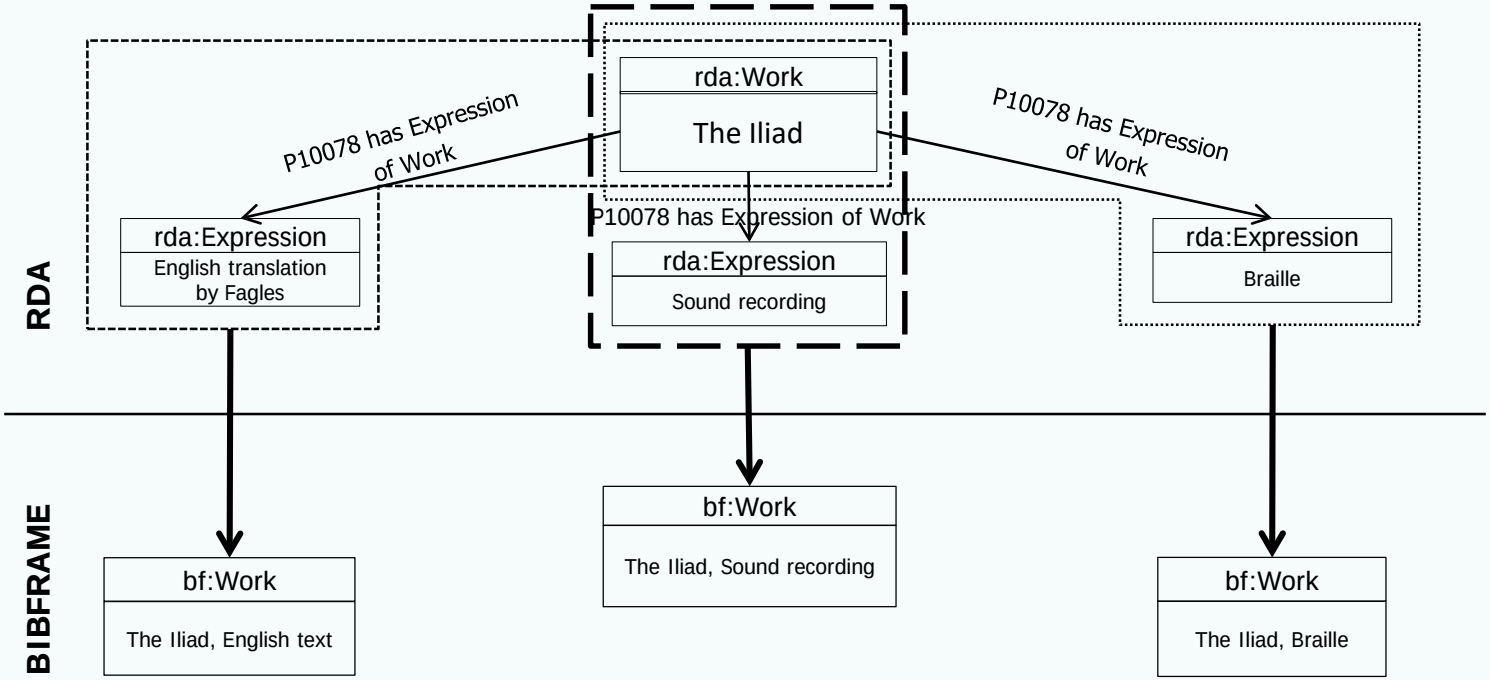
Rational

- Interoperability between RDA and BIBFARME is a topic of great importance in libraries and challenging as well
- EU BIBFRAME 2018 “Work-to-Work relations - Practice and plans” and “RDA with BIBFRAME” topics in Breakout Sessions
- Decision for letter to RDA Steering Committee
  - “… the relationship between RDA and BIBFRAME will have to be evaluated in order to allow using both standards' full potentials…”
  - “So far, most RDA implementations were and are based on the MARC 21 format…”
  - “… Neither MARC 21 nor BIBFRAME, however, are able to accommodate RDA's full granularity…”

Interoperability

- To assess how similar/dissimilar are RDA and BF in terms of
  - Core classes
  - Inherent and Content relations
- Needs mapping rules and assessment for their effectiveness and efficiency
- The goal is to preserve data semantics in both models
- This presentation reports on transforming data from RDA to BF
- Transformation from BF to RDA has to be investigated too!

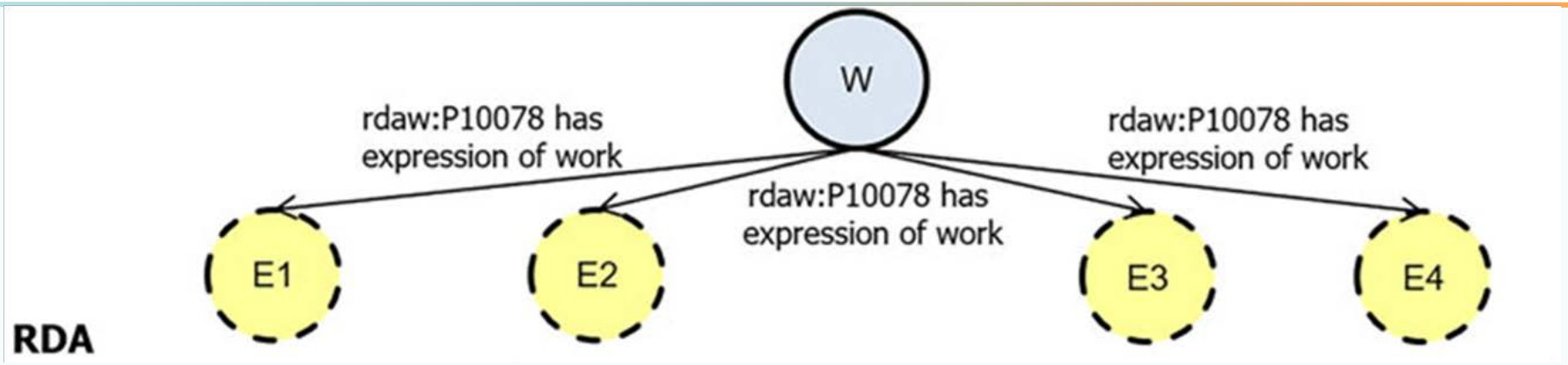
Core Classes & Inherent Relationships - *Work* with multiple *Expressions*



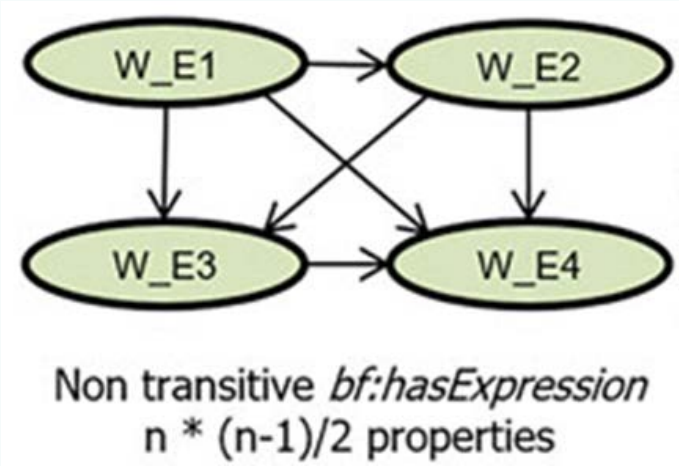
- Clustering/Grouping of the same intellectual content is lost!

  Work - P10078 has Expression of Work ➔ *bf:Work*

Expression Class absence - how to resolve clustering?



- Use bf:hasExpession / bf:expressionOf property

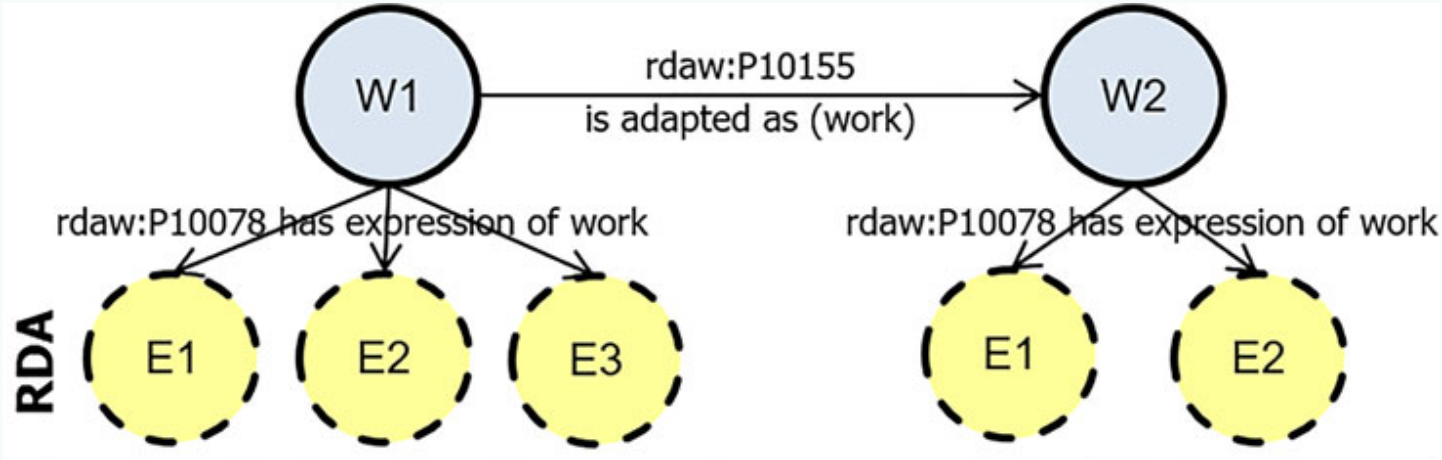


- bf:hasExpession / bf:expressionOf have to be defined as **owl:transitive**

Derivative (Content) relationships

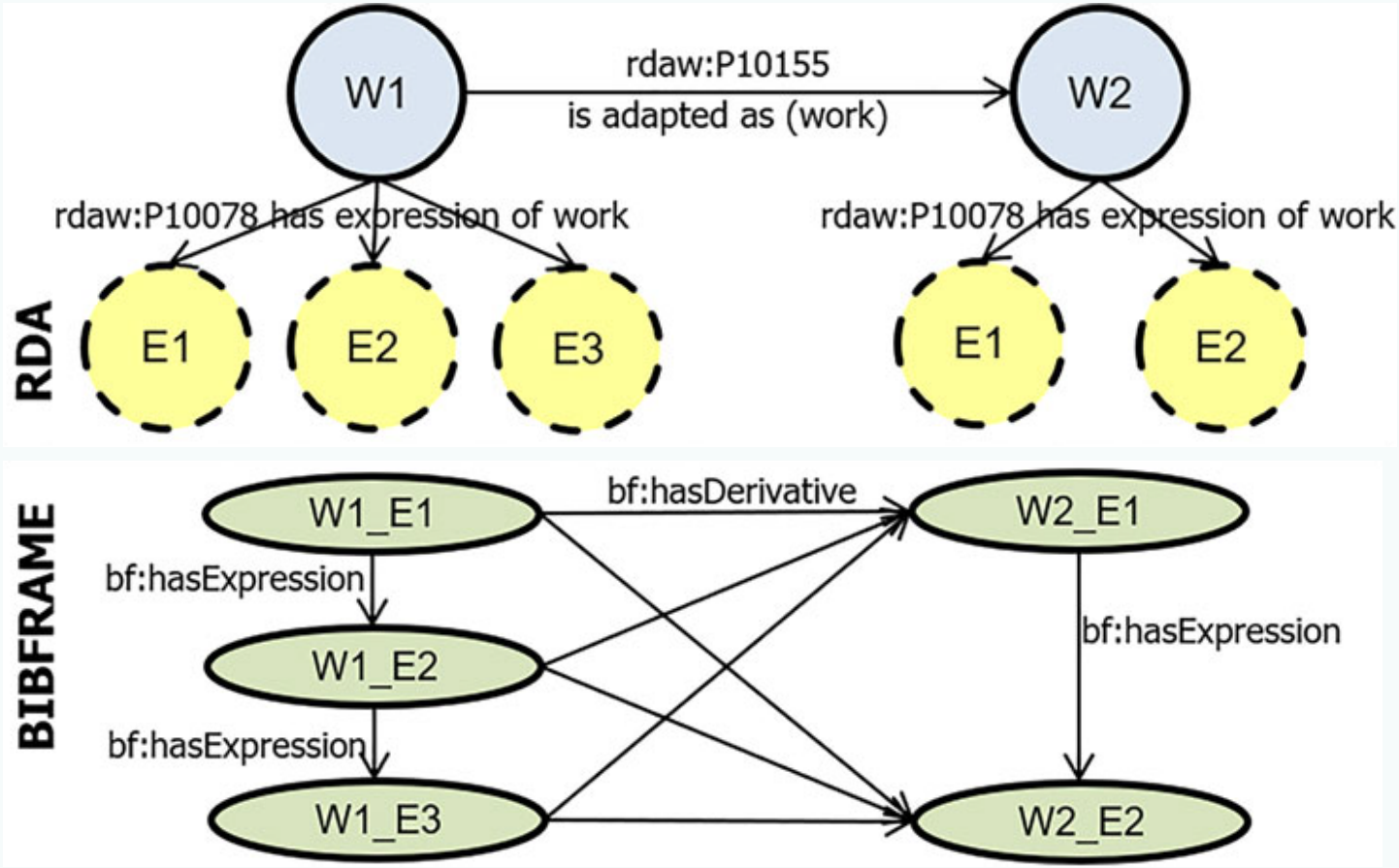
- Derivative relationships are mostly evolved in translations, adaptations, abridgements, dramatizations
- RDA and BIBFRAME represent derivative relationships between semantically different classes
  - RDA represents derivation at both rda:*Work* and rda:*Expression* levels
  - BF represents derivation at bf:*Work* levels
- RDA is more granular than BIBFRAME, mapping is mostly made to more generic BIBFRAME properties

RDA Work level derivative relationship



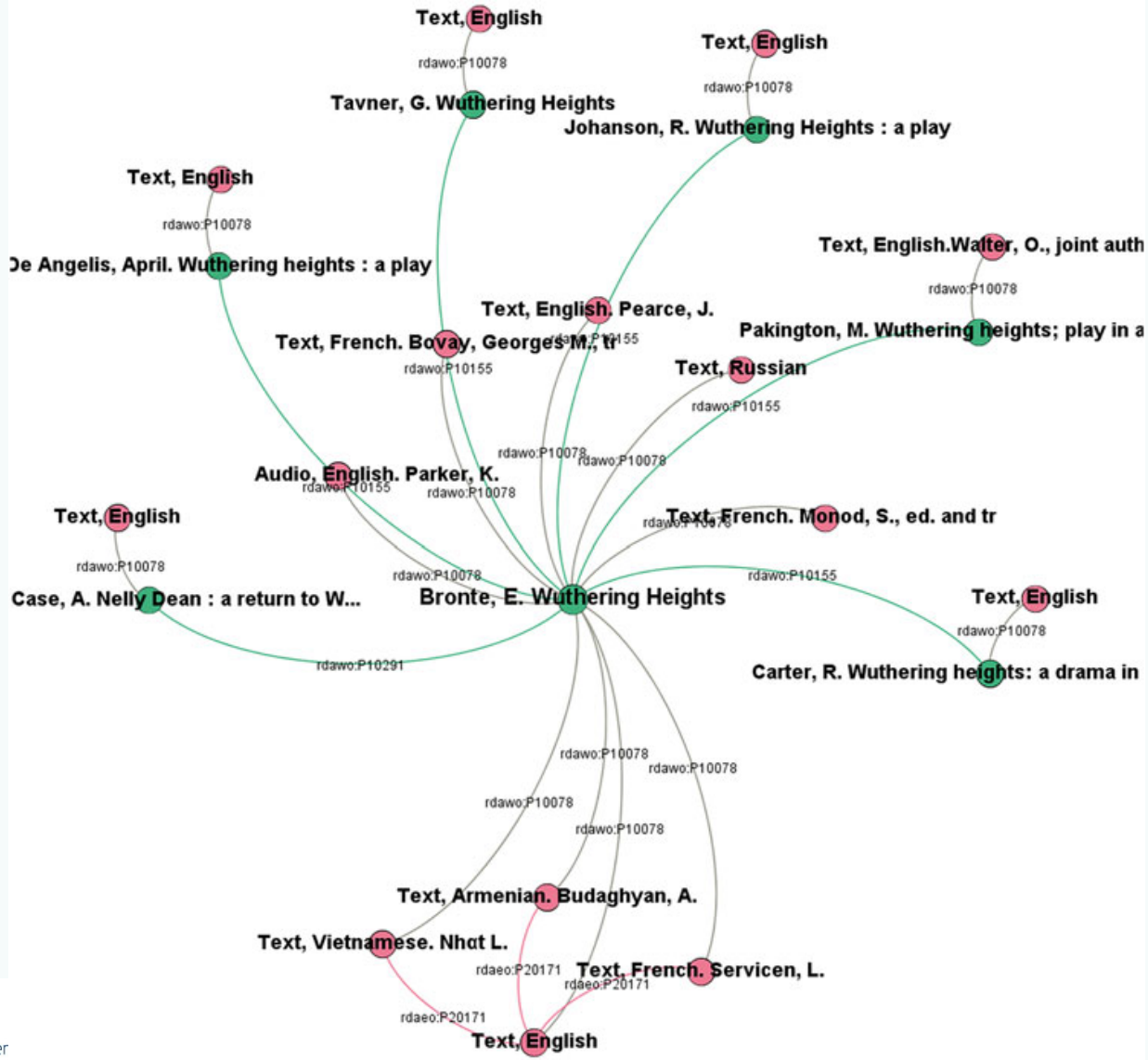
- Denotes that there is a derivative relationship between the two Works, but the exact signs (Expressions) used to produce the derivation are not known

Work level derivative relationship mapping - Is it feasible?

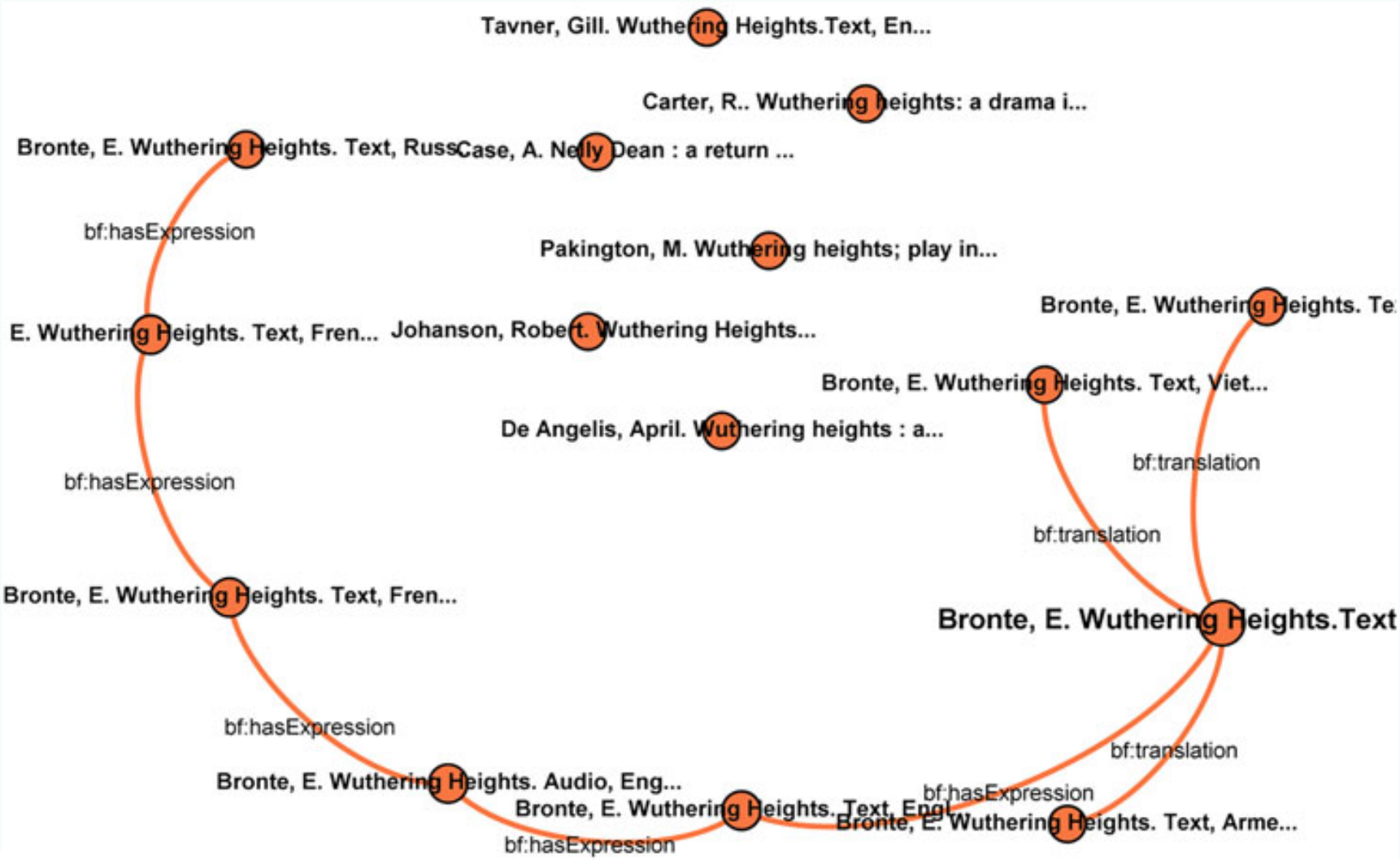


- Many non-existing ("noisy") relationships are generated in BIBFRAME

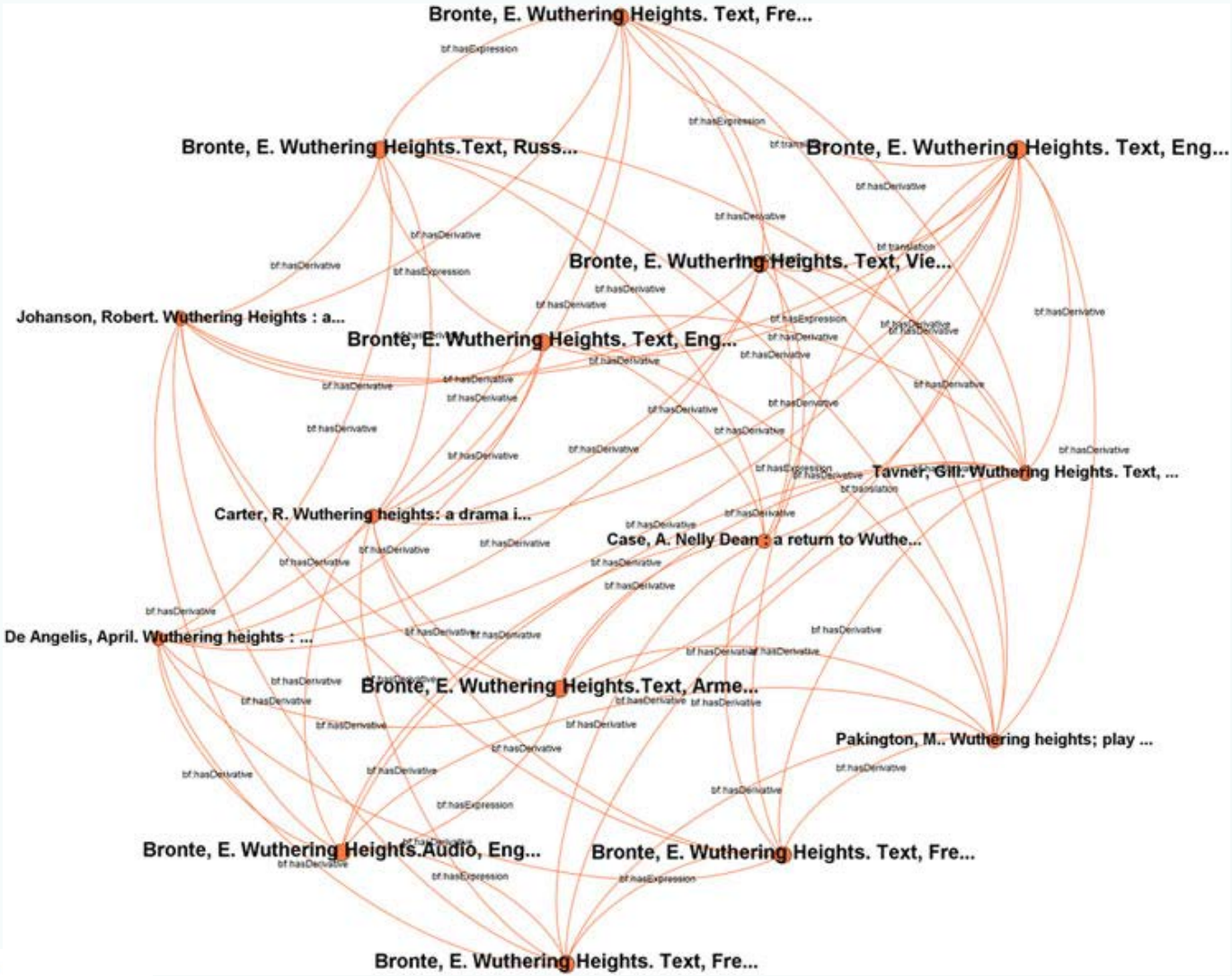
Wuthering Heights: Work-Work and Expression - Expression relationships in RDA



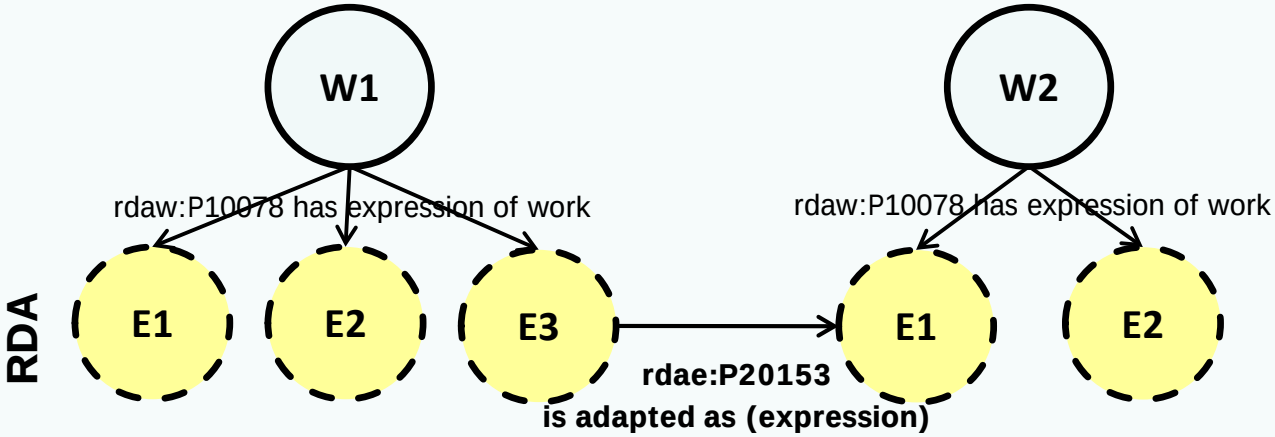
Wuthering Heights: Work-Work relationships in BF



Wuthering Heights: “noises” in mapping Work-Work and Expression-Expression relationships from RDA to BF

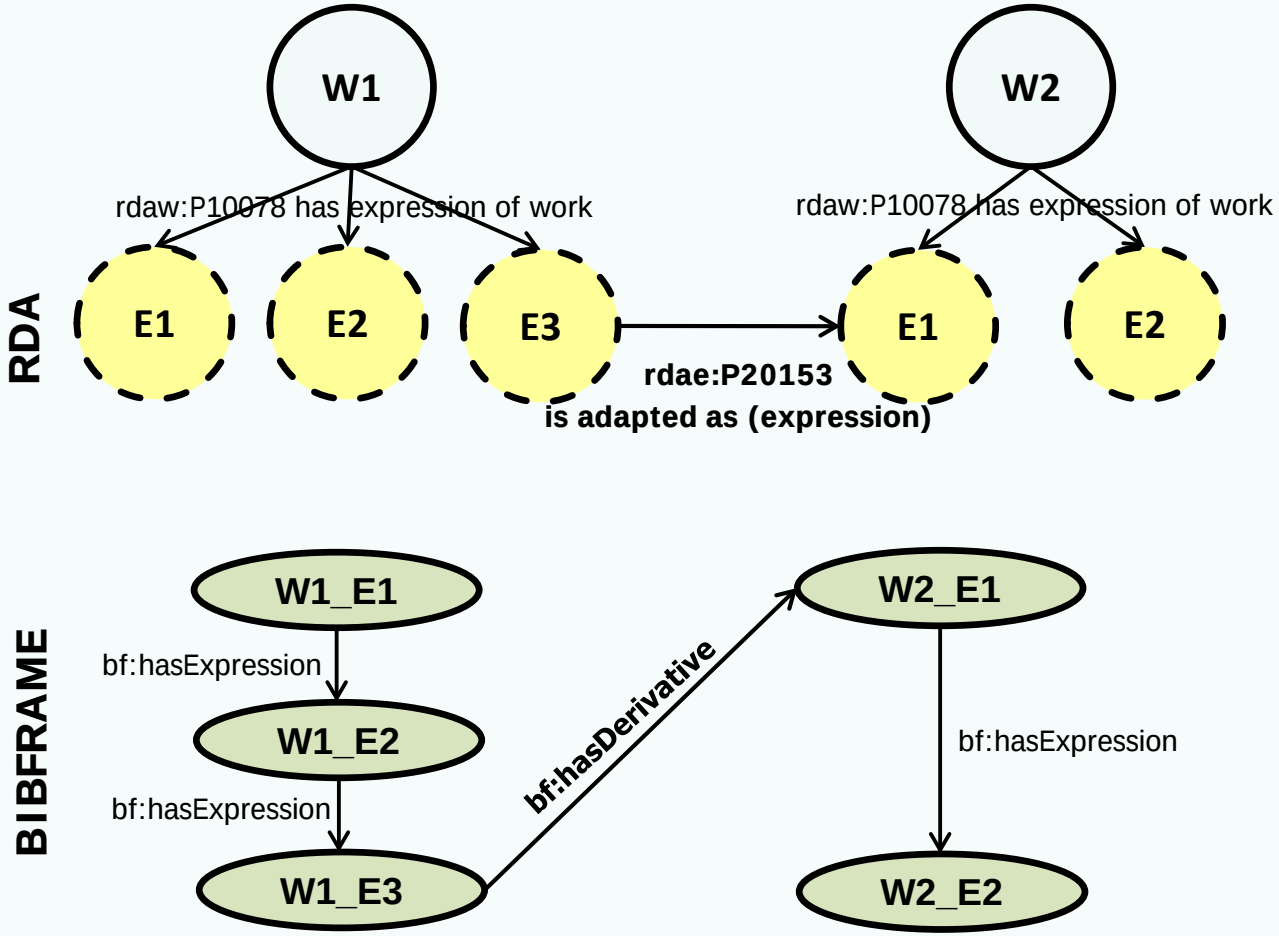


RDA Expression level derivative relationship



- Expression level relationship is precise
- Expression level relationships may be mapped to BIBFRAME as relationships between *bf:Works*

RDA Expression level derivative relationship mapping



Tools and Data to further explore RDA to BF Transformation Challenges

- Semantic Interoperability between Bibliographic Conceptual Models (http://libdata.tab.ionio.gr/models/si-mapping/si_project.html)
- Mapping demos
  - Work and Expression level relationships mappings
  - Expression level relationships mappings
- Datasets
  - Gold RDA and Gold BIBFRAME
  - Virtuoso SPARQL Query Editor (http://libdata.tab.ionio.gr:8890/sparql)
  - Jupyter Notebooks for graph URIs, prefixes, SPARQL queries and Visualizations
  - Marc records

Questions?

This presentation highlights ideas from:

Zapounidou, S., Sfakakis, M. and Papatheodorou, C., (2019), *Mapping derivative relationships from RDA to BIBFRAME 2*, Cataloging & Classification Quarterly, scheduled for publication in v. 57, no. 5.