

Astronomical RDF is everywhere

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- Conversations with Doug Burke, Alberto Accomazzi (of ADS), and Scott Morrison (working on something similar with maths arXiv)
- SKOS vocabularies for MSC & arXiv classifications
- 2008-01 contents of ADS and arXiv, converted to RDF
- <http://api.talis.com/stores/ngray-dev1/services/sparql>

Finding links

- ▶ SPARQL queries
- ▶ Mostly DC and FOAF (so you don't have to know much about the schema)

```
SELECT ?res ?type ?uri
WHERE {
  ?res dcterms:creator
    [ foaf:surname "Hidas" ].
  ?res ads:link
    [ dcterms:title ?type;
      ads:uri ?uri ]
}
```

Cross-domain query

- ▶ Query ADS *and* arXiv
- ▶ All DC and FOAF
- ▶ ...bibcode, arXiv code and DOI are all DC identifiers

```
SELECT ?res ?id ?title
WHERE {
  ?res dcterms:creator
    [ foaf:surname "Hidas" ].
  ?res dcterms:identifier ?id.
  ?res dcterms:title ?title.
}
```

Using vocabularies

- ▶ Just simple arXiv class here
- ▶ Astronomy keywords present in ADS (as text, not SKOS, yet)

```
SELECT ?res ?cat
WHERE {
  ?res arxiv:categories ?cat.
  ?cat skos:broader
    <http://arxiv.org/
      categories/cond-mat>
}
```

- Still at <http://thor.roe.ac.uk/quaestor/kb>
- There are potential links to bibliographies via the Registry <subject> vocabulary
- There are similar potential links between the registry, bibliographies and SIMBAD, and thence the Ontology of Object Types

RDF registry

- ▶ Constructed from XML registry
- ▶ <http://thor.roe.ac.uk/quaestor/kb/rm>

```
SELECT ?r
WHERE {
  ?r vor:capability
  [ sia:imageServiceType
  [ a sia:ImageServiceTypeAtlas
  ]].
  ?r vor:content
  [ vor:contentLevel
  [ a vor:ResearchContentLevel
  ]].
}
```

sparqling simbad

```
% curl -i http://localhost:2020/resource/identifier/TYC_3187-1992-1/11693
HTTP/1.1 303 See Other
Location: http://localhost:2020/page/identifier/TYC_3187-1992-1/11693
Content-Length: 0
% curl http://localhost:2020/page/identifier/TYC_3187-1992-1/11693
HTTP/1.1 200 OK
Content-Type: text/html; charset=utf-8
...
% curl -i -H accept:application/rdf+xml \
    http://localhost:2020/resource/identifier/TYC_3187-1992-1/11693
HTTP/1.1 303 See Other
Location: http://localhost:2020/data/identifier/TYC_3187-1992-1/11693
Content-Length: 0
% curl -I http://localhost:2020/data/identifier/TYC_3187-1992-1/11693
HTTP/1.1 200 OK
Content-Type: application/rdf+xml; charset=utf-8
Content-Length: 1768
...
%
```


linking open data

- Linking Open Data task-force/project/movement

- <http://esw.w3.org/topic/SweoIG/TaskForces/CommunityProjects/LinkingOpenData>

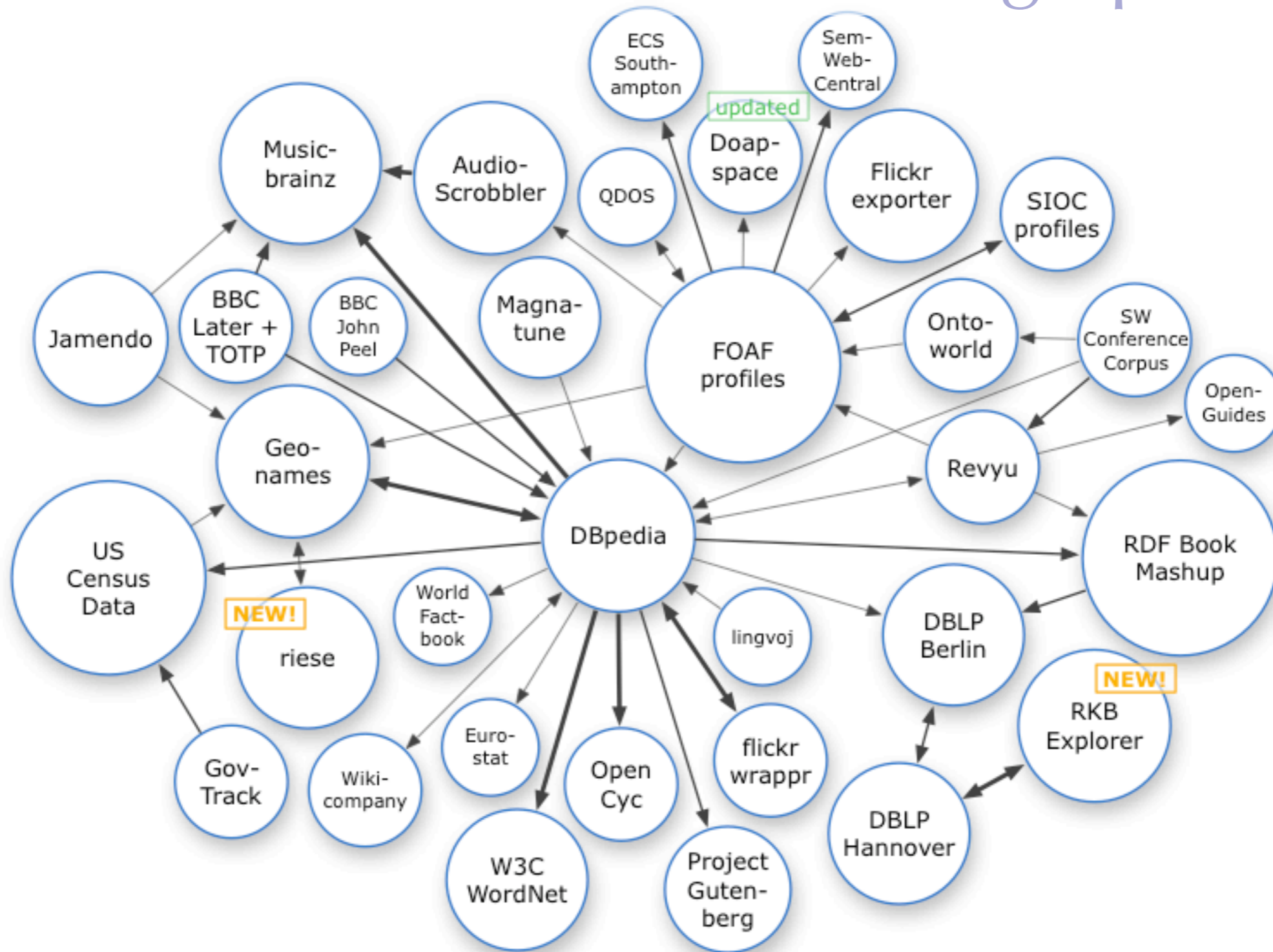
- A set of patterns for connecting RDF sources, making them browsable by humans or machines

- Disco: http://www4.wiwiss.fu-berlin.de/rdf_browser/

- Tabulator: <http://dig.csail.mit.edu/2005/ajar/release/tabulator/0.8/tab.html>

- <http://www.w3.org/People/Berners-Lee/card#i> or <http://dbpedia.org/resource/Trieste>

linking open data



SO...

■ The VO has plenty of open, implicitly interlinked data, and making these links explicit makes it easy to browse for humans *and* applications