Linked open data

Conference Item

How to cite:


For guidance on citations see FAQs

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ViBRANT
Virtual Biodiversity

Workshop 5: Bibliographies in a changing landscape

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BIH2013 workshop, Sapienza University, 6 September 2013
## Agenda

| Introduction | • The wider landscape  
|              | • The bibliography of life |
| ViBRANT tools | • RefBank  
|              | • ReFinder |
| The future | • Linked open data |
LOD is happening

British National Bibliography as Linked Open Data
And quickly blow our own trumpet

Some of the tools they have developed are not as good as ours
Back to our workshop – RDF is spreading

The **BBC Natural History web site** is powered by RDF, with its own **Wildlife Ontology**.
Back to our workshop – and bibliographies

On 4th April 2012, the Nature Publishing Group published as open linked data the bibliographic records of all their journal articles dating back to 1869.
Bibliographic reference in a paper

:inter textual-semantics a 
bibo:AcademicArticle 
; bibo:authorList ( :marcoux :rizkallah ) 
; dcterms:title "Intertextual semantics: A semantics for information design"
; dcterms:issued "2009"^^xsd:gYear 
; bibo:doi "10.1002/asi.21134" 
; bibo:pageStart "1895"
; bibo:pageEnd "1906"
; dcterms:hasFormat :html , :pdf 
; dcterms:isPartOf [ a bibo:Issue 
; bibo:issue "9"
; bibo:volume "60"
; dcterms:isPartOf [ a bibo:Journal 
; dcterms:title “Journal of the American Society for Information Science and Technology”

; dcterms:publisher :wiley-and-sons ]]. 
:html a bibo:AcademicArticle 
; dcterms:format type:text/html 
; dcterms:issued "21-08-2009"^^xsd:date . 
:pdf a bibo:AcademicArticle 
; dcterms:format type:application/pdf 
; dcterms:issued "21-08-2009"^^xsd:date . 
:marcoux a foaf:Person 
; foaf:givenName “Yves”
; foaf:familyName “Marcoux” . 
:rizkallah a foaf:Person 
; foaf:givenName “Élias”
; foaf:familyName “Rizkallah”. 
:wiley-and-sons a foaf:Organization 
; foaf:name “John Wiley & Sons, Inc.”
Aids analysis

Overlay maps comparing journal publication portfolios from 2006 to 2010 between the London Business School (on the left) and the Science and Technology Policy Research Unit SPRU at the University of Sussex (on the right).
Visualisation example one

A static image showing the interactions between David Shotton and all other authors (purple) with whom he has published an article (green) in the PMC OA subset. The red dots are the journals these articles are in, and the brown are citations.
Visualisation example two

This image maps the 383 articles with Malaria as a keyword in the PMC OA, showing all 70 journals in which they are published, with links to the top 100 authors and citations.
Possible queries

Simple ones:
  • papers on malaria
  • papers by A N Other
  • papers published in the ABC conference, 2009

Complicated ones
  • papers by the co-authors of A N Other
  • papers that are cited by papers in the ABC conference, 2009
## An early citation annotation schema

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weak</td>
<td>Weakness of cited approach</td>
</tr>
<tr>
<td>CoCoGM</td>
<td>Contrast/Comparison in Goals or Methods (neutral)</td>
</tr>
<tr>
<td>CoCoR0</td>
<td>Contrast/Comparison in Results (neutral)</td>
</tr>
<tr>
<td>CoCo-</td>
<td>Unfavourable Contrast/Comparison (current work is better than cited work)</td>
</tr>
<tr>
<td>CoCoXY</td>
<td>Contrast between 2 cited methods</td>
</tr>
<tr>
<td>PBas</td>
<td>Author uses cited work as starting point</td>
</tr>
<tr>
<td>PUse</td>
<td>Author uses tools/algorithms/data</td>
</tr>
<tr>
<td>PModi</td>
<td>Author adapts or modifies tools/algorithms/data</td>
</tr>
<tr>
<td>PMot</td>
<td>This citation is positive about approach or problem addressed (used to motivate work in current paper)</td>
</tr>
<tr>
<td>PSim</td>
<td>Author’s work and cited work are similar</td>
</tr>
<tr>
<td>PSup</td>
<td>Author’s work and cited work are compatible/provide support for each other</td>
</tr>
<tr>
<td>Neut</td>
<td>Neutral description of cited work, or not enough textual evidence for above categories or unlisted citation function</td>
</tr>
</tbody>
</table>
Another, more widely used, annotation scheme

The **SWAN 2.0** (Semantic Web Applications in Neuromedicine) ontology
A more recent annotation schema

### Why does this article cite that reference?
(Choose as many reasons as apply by clicking on them.)

- cites as authority
- critiques
- obtains background from
- uses data from
- cites for information
- discusses
- reviews
- uses method in
- corrects
- extends
- updates

### Other Reasons

<table>
<thead>
<tr>
<th>agrees with</th>
<th>compiles</th>
<th>documents</th>
</tr>
</thead>
<tbody>
<tr>
<td>cites as data source</td>
<td>confirms</td>
<td>gives background to</td>
</tr>
<tr>
<td>cites as evidence</td>
<td>contains assertion from</td>
<td>gives support to</td>
</tr>
<tr>
<td>cites as metadata document</td>
<td>credits</td>
<td>has reply</td>
</tr>
<tr>
<td>cites as recommended reading</td>
<td>derides</td>
<td>includes excerpt from</td>
</tr>
<tr>
<td>cites as related</td>
<td>disagrees with</td>
<td>includes quotation from</td>
</tr>
<tr>
<td>cites as source document</td>
<td>disputes</td>
<td>qualifies</td>
</tr>
</tbody>
</table>

| refutes |
| replies to |
| retracts |
| ridicules |
| shares authors with |
| supports |
| uses conclusions from |
A more recent annotation schema
A nomenclature for references and citations

- This is the nomenclature used in SPAR (Semantic Publishing and Referencing) Ontologies

http://purl.org/spar/

that include CiTO, the Citation Typing Ontology

http://purl.org/spar/cito/
Possible queries

Simple ones:
• give me paper y that cites the paper x
• who cites paper x

Complicated ones:
• which papers are used in paper x to support the hypothesis that…
• who authored papers that reject the hypothesis in paper x
The end…
of my presentation
and of the workshop
Please send your suggestions for new search queries to David.King@open.ac.uk
Thank you for your time
And any final questions?