

The SMS/RISIS
research infrastructure for
science and innovation studies

Peter van den Besselaar

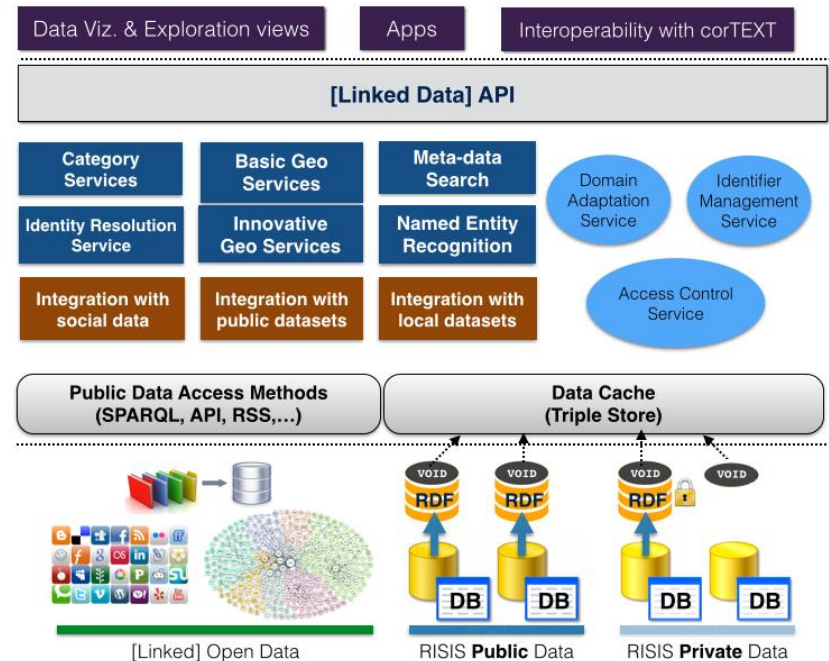
VU University Amsterdam

The philosophy

- Many data are available (and could be available)
- Many tools are available
- Integrating into a platform to support researchers
- Supporting the workflow from data integration up to data analysis and visualization
- Using requires skills – and collaboration between the researcher in the field and data scientists

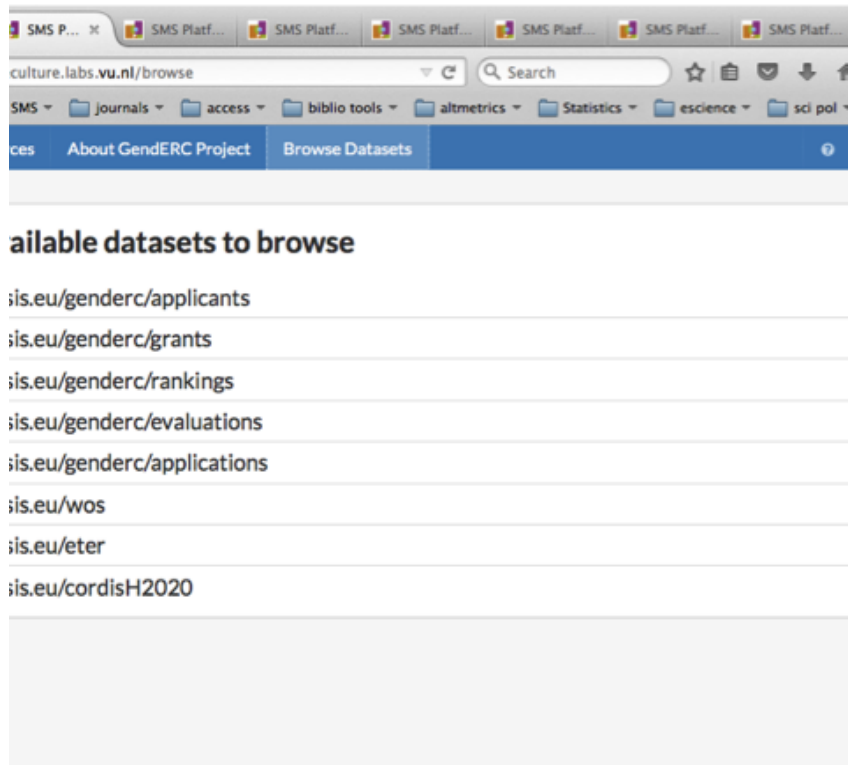
Architecture

- Data preprocessing
- Data formatting -> RDF
- Metadata extraction for search
- Named entity recognition -> objects in datasets
- Disambiguation (entity resolution)
- Category services
 - Geo-location
 - Research fields
 - top-down, and bottom-up
- Data enrichment: linking objects to available open data
- Access regulation / protected spaces for use of confidential data



Data

Data for the demonstrator



- Data are available at level of metadata: [RISIS data](#)
- Data are converted to RDF, and can be browsed in the [SMS facet browser](#)
- [Other data](#) increasingly available

Querying the data

Find for all **applicants** the evaluation scores and the outcome

```
Query X +
http://spargel-iris.iris.fhnw.ch/

1- PREFIX genderc: <http://iris.fhnw.ch/genderc/vocab/>
2- PREFIX foaf: <http://xmlns.com/foaf/0.1/>
3- SELECT DISTINCT ?gender (CONCAT (?firstName, " ",?familyName) AS ?applicantName) WHERE {
4-   {GRAPH <http://iris.fhnw.ch/genderc/applications>
5-     {
6-       ?application a genderc:Application .
7-       ?application genderc:evaluation ?evaluation .
8-       ?application genderc:applicant ?applicant .
9-     }
10-  }
11-   {GRAPH <http://iris.fhnw.ch/genderc/applicants>
12-     {
13-       ?applicant a genderc:Applicant .
14-       ?applicant foaf:gender ?gender .
15-       ?applicant foaf:familyName ?familyName .
16-       ?applicant foaf:firstName ?firstName .
17-     }
18-  }
19-   {GRAPH <http://iris.fhnw.ch/genderc/evaluations>
20-     {
21-       ?evaluation genderc:granted "1"^^xsd:int .
22-     }
23-  }
24- }
```



Table Raw Response Pivot Table Google Chart

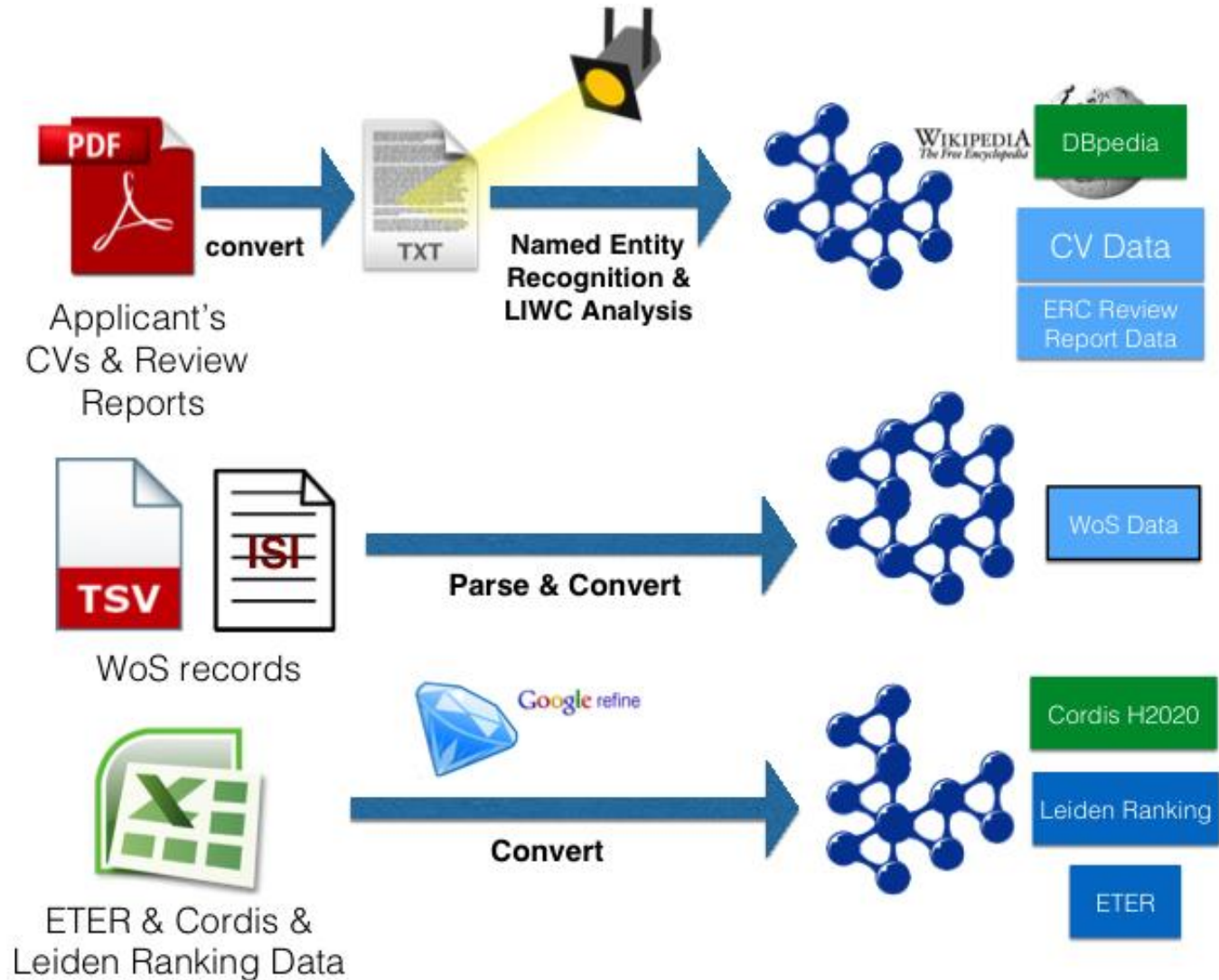
Showing 1 to 50 of 308 entries Search: Show 50 entries

gender	applicantName
1 male	...
2 male	...
3 male	...
4 female	...
5 male	...
6 male	...
7 female	...
8 male	...
9 female	...

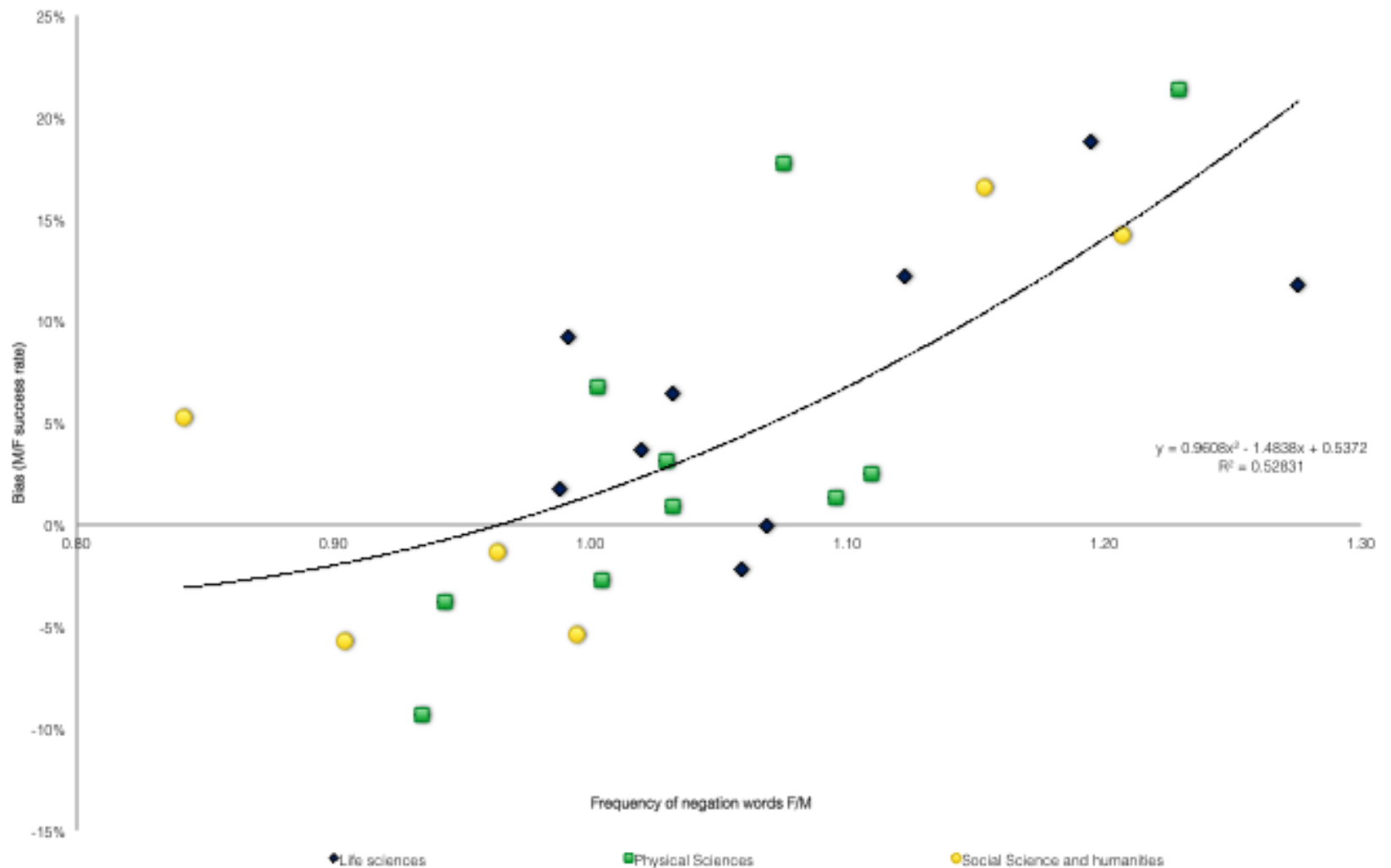
Example

- Gender stereotyping -> selection bias?
- Stereotyping in language: agentic versus communal words.
- Also in peer review?
- And also when controlling for performance?
- Data
 - PDF: 3030 applicants with 4 to 8 (short) reviews and a (short) summary report per applicant
 - PDF: 3030 CV with performance
 - XLS: administrative with information about applicant and result
 - Dbase: WoS data for performance indicators

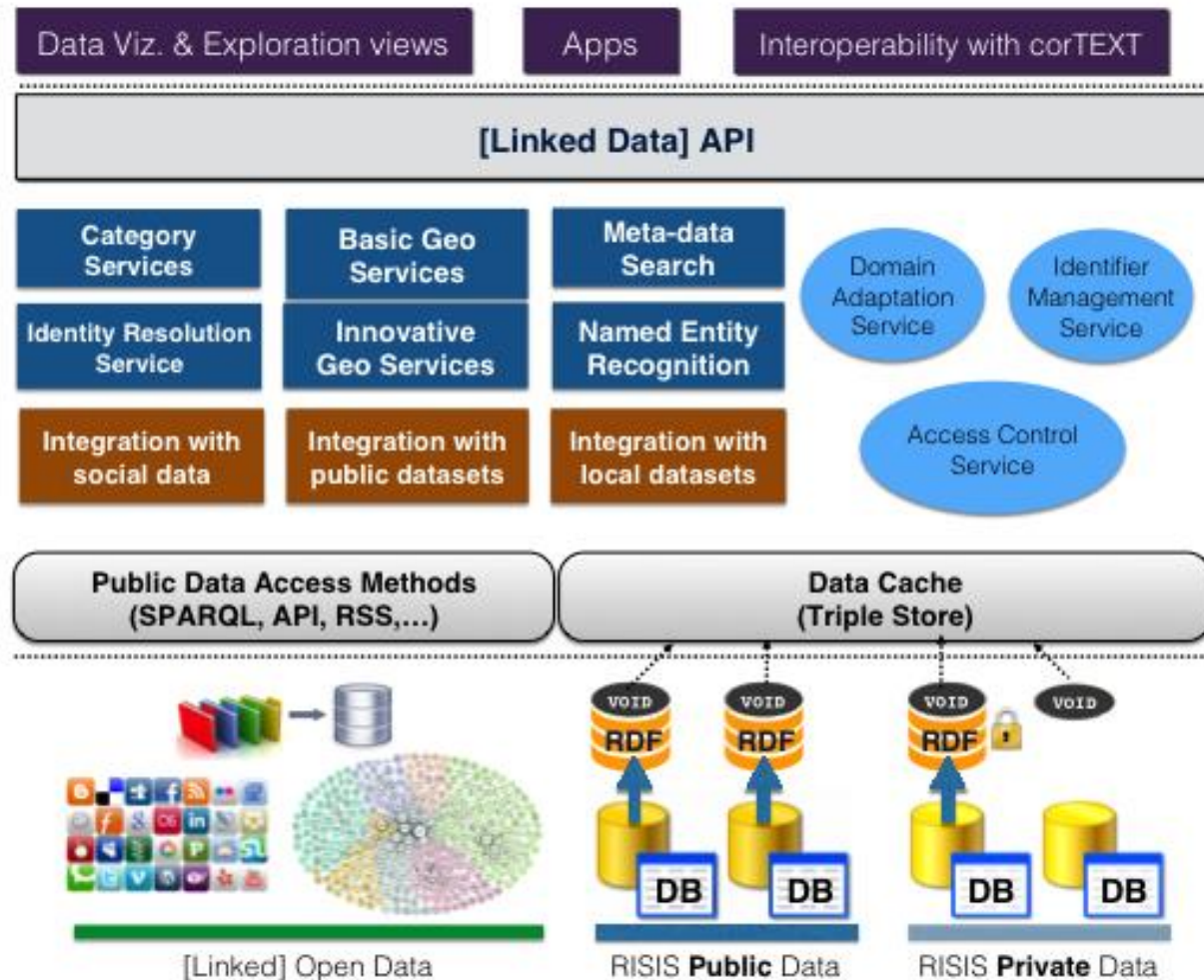
Pre-processing



Gender difference in success by difference in negating words



The architecture



RISIS Linked Data Infrastructure