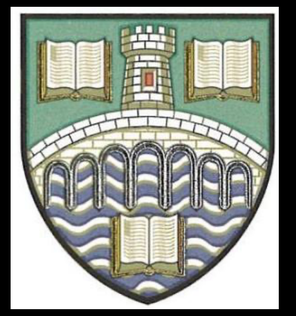


Disclosing Domestic Servants Registries as Linked Open Data

Richard L. Zijdeman (IISG, University of Stirling)
Social Science History Association Conference
November 17-20 2022, Chicago, USA

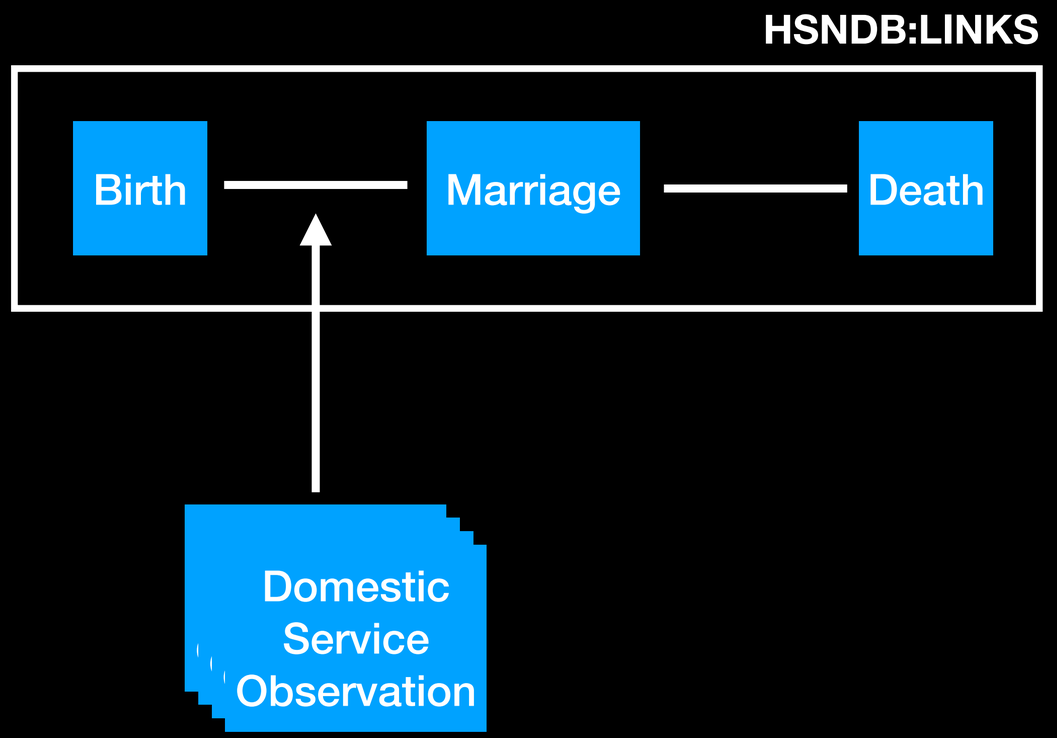
Problem 1: representation of women's work in historical sources

- Underregistration of work activities
- Unrecognized activities
- Only allowed in certain occupations

Exception: domestic servant registers

- Registration of mainly women
- Available for multiple decades
- Available in multiple countries
- Detailed info on age, religion and migration
- (But indeed limited to a number of occupations)

Additional life course measurement(s)



Been there, done that, bought the T-shirt?

- Domestic service work as ‘bridging’ occupation;
- Move to urban areas to ‘escape’ rural lower positions;
- Acquire knowledge on ways of living of moderate and higher classes;
- Gain income for parental household (and reducing cost of extra child);

E.g.: Bras 2003, McBride 1974, Laslett 1965, Fauve-Chamoux & Wall 2012

Problem 2: representation of local archives

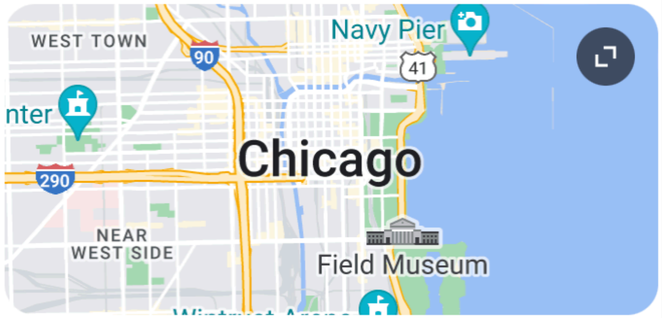
- Local archives do most of the hard work:
  - preserving data, digitizing data, data entry
- Get no credit for any of it from ‘us’ (not even ‘clicks’)
- Making it more difficult to secure funding
  - (Also bad for ‘us’)

https://www.ted.com/talks/tim_berners_lee_on_the_next_web

The Next Web

Chicago

City in Illinois



Chicago, on Lake Michigan in Illinois, is among the largest cities in the U.S. Famed for its bold architecture, it has a skyline punctuated by skyscrapers such as the iconic John Hancock Center, 1,451-ft. Willis Tower (formerly the Sears Tower) and the neo-Gothic Tribune Tower. The city is also renowned for its museums, including the Art Institute of Chicago with its noted Impressionist and Post-Impressionist works. — Google

Population: 2.697 million (2021)

Unemployment rate: 5.9% (Aug 2022)

Metropolitan area: 4,198 mi² (square miles)

Mayor: Lori Lightfoot

Age: 185 years

You've probably used it already!

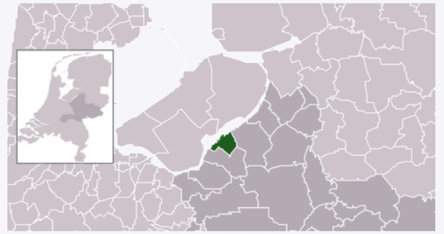
Harderwijk

Municipality

Harbour of Harderwijk seen from windmill De Hoop

Flag

Coat of arms

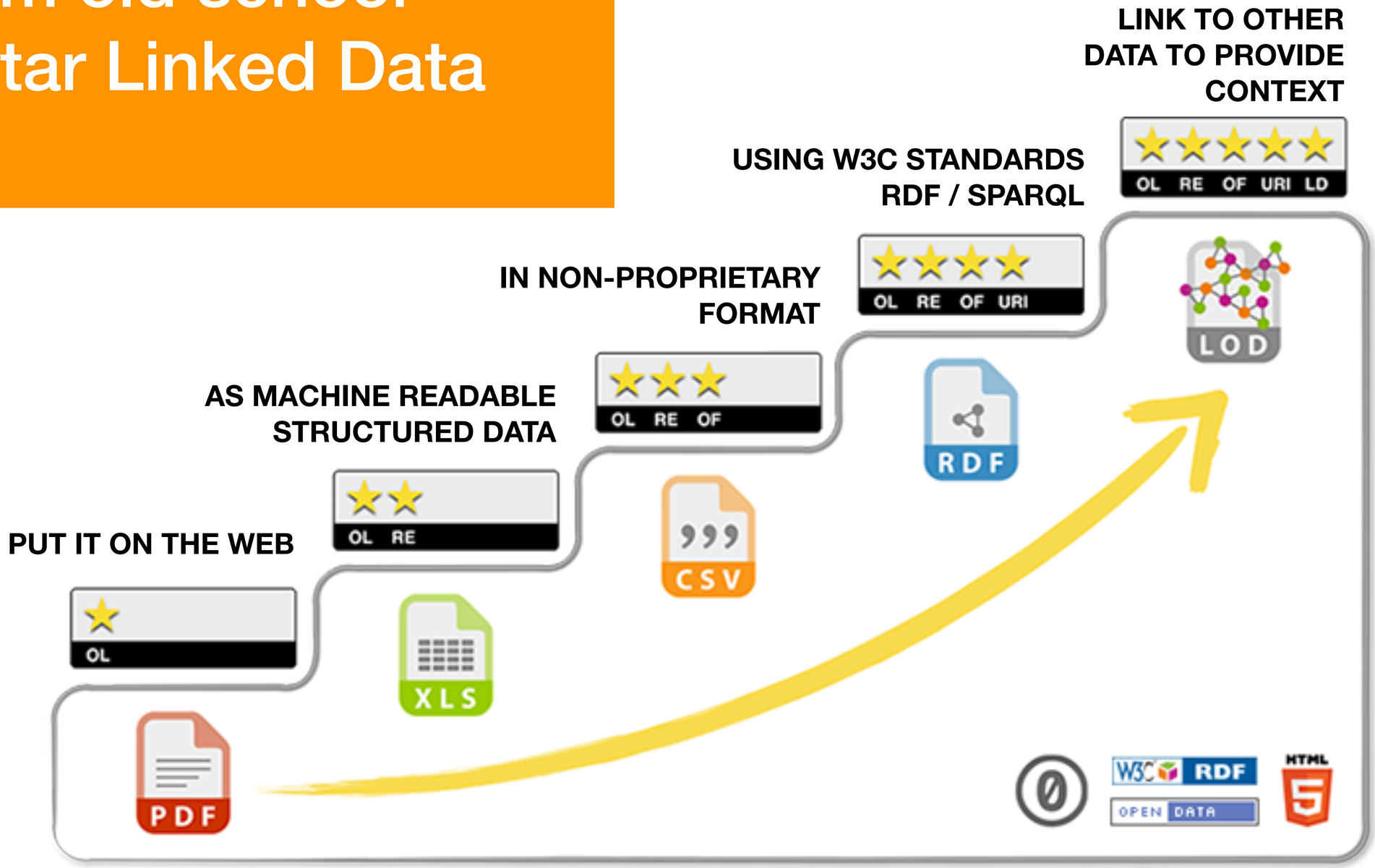


Location in Gelderland

Coordinates: 52°21′N 5°37′E

Country	Netherlands
Province	Gelderland
Government[1]	
• **Body**	Municipal council
• **Mayor**	Harm-Jan van Schaik (CDA)
Area[2]	
• **Total**	48.27 km² (18.64 sq mi)

From old school to 5-star Linked Data



Linked Data (RDF)

Represent data facts as URI's:

- Unique ID, that's preferably also a URL (retrievable via the Web)
- "Chicago" -> https://dbpedia.org/page/Chicago

Linked Data (RDF)

Structure facts in triples (tripartite statements):

ID	birthPlace
1	Chicago
…	…

<id1>

<hasBirthPlace>

<Chicago>

<https://mydata.org/id/1>

<https://schema.org/birthPlace>

<https://dbpedia.org/page/Chicago>

Data

- Dienstboden (‘domestic service’) register 1888-1909
  - [1873-1880, 1880-1887, 1906-1919]
- Data entry by volunteers of the Historical Association ‘Herderwich’
- Data provided by Historical Knowledge Center Harderwijk
- Basic cleaning (mainly of dates and incorrect fields)
- N_unique = 1519 (N_raw=1880)

Variables

Dienstbodenregister Harderwijk 1888-1909 **inventaris NAH 940**

inschr	3=familienaam	4=voornaam	geb.dd	geb.pl.	9=BS	11=religie	12=beroep	13=huizing	14=aan komst	15= vorige woonplaats	16=vertrek	17=naar	20=opmerkingen
---	Apperlo	Elisabeth	10-11-1864	Zwartsluis	o	NH	dienstmeid	A. Bilderbak	17-03-1884	Amsterdam	24-09-1887	Zwartsluis	**Blad 1**
---	---	---	---	---	---	---	---	de Hondt	---	---	---	---	---
---	---	---	---	---	---	---	---	A. Willemsen	---	---	---	---	---
---	Appelboom	Jannetje	24-05-1868	Ermelo	o	NH	dienstmeid	H. Kamm	17-10-1884	Nijkerk	---	Deel D blz. 96	Gehuwd 06-02-1895
---	---	---	---	---	---	---	---	Ephraim	---	---	---	---	---
---	---	---	---	---	---	---	---	Melms	---	---	---	---	---
---	Aartsen	Johanna Everdina	21-09-1864	Harderwijk	o	NH	dienstmeid	P.H. Thijs	---	---	---	Deel A blz. 6	---
---	---	---	---	---	---	---	---	Garjeanne	---	---	---	---	---
---	Aartsen	Jans	02-07-1861	Harderwijk	o	NH	dienstmeid	Jonkheer	---	---	02-05-1886	Hoornaar	---

- familyName
- givenName
- dateOfBirth
- placeOfBirth
- (civil status)
- religion
- (occupation)
- hostName
- comments
- placeComingFrom
- dateOfArrival
- placeLeavingTo
- dateOfDeparture

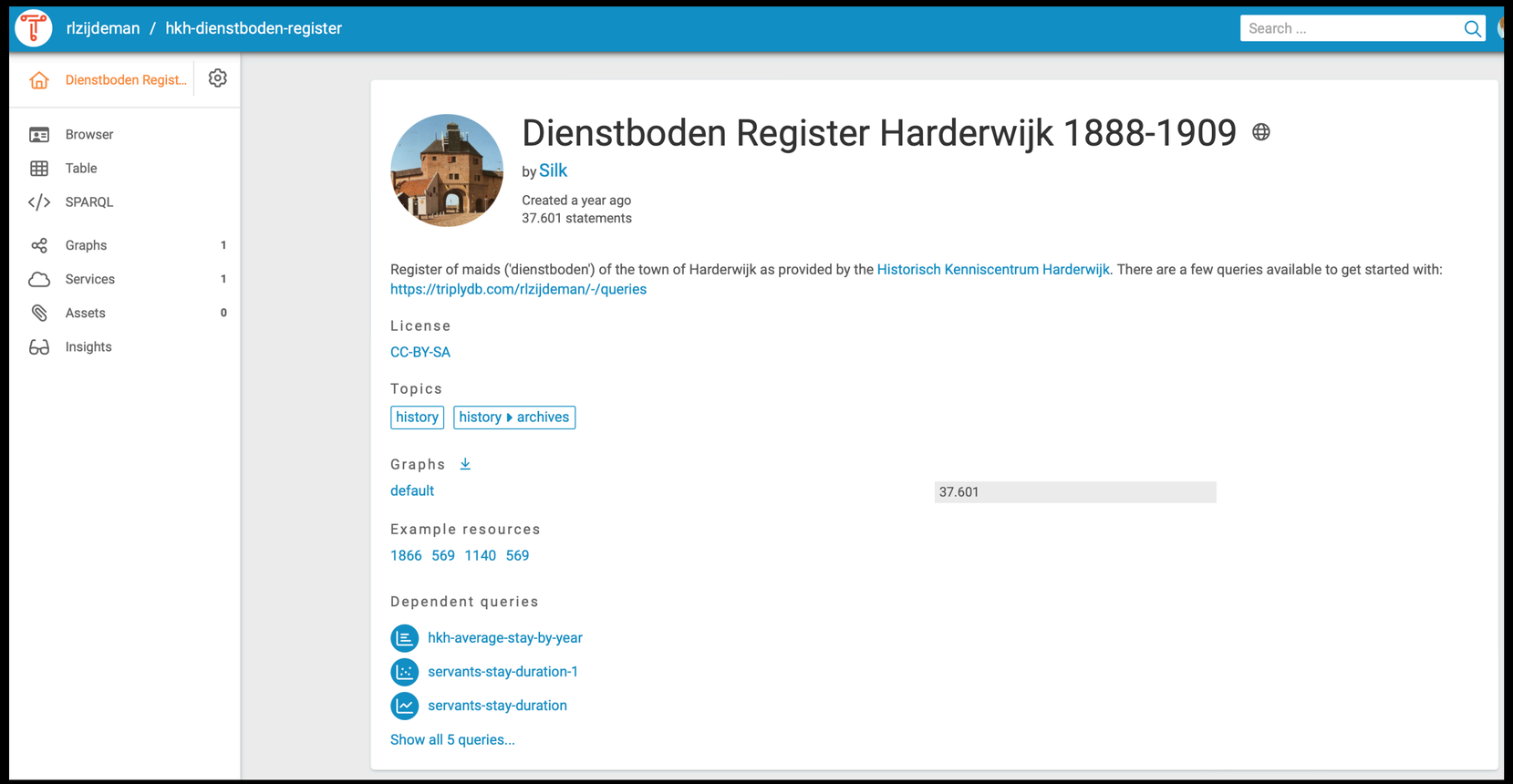
Data conversion

- Data converted using a tool: CoW (Meroño-Peñuela et al. 2019)
- Takes a csv as argument
- Automatically creates RDF and a ‘recipe’ for the conversion
- You can manually alter the recipe (like an R/Python script)
- Recipe available via: https://github.com/rlzijdeman/hkh-maids

Data ‘live’ available

- Hosted via Triply’s triple store:

https://triplydb.com/rlzijdeman/hkh-dienstboden-register



569

Person

http://www.hkharderwijk.nl/nah/NAH940-DBRegister-1888-1909/persons/servant/569

BirthDate

1863-01-04

BirthPlace

Harderwijk

FamilyName

Haverkamp

GivenName

Aaltje

HasOccupation

dienstbode

CivilStatus

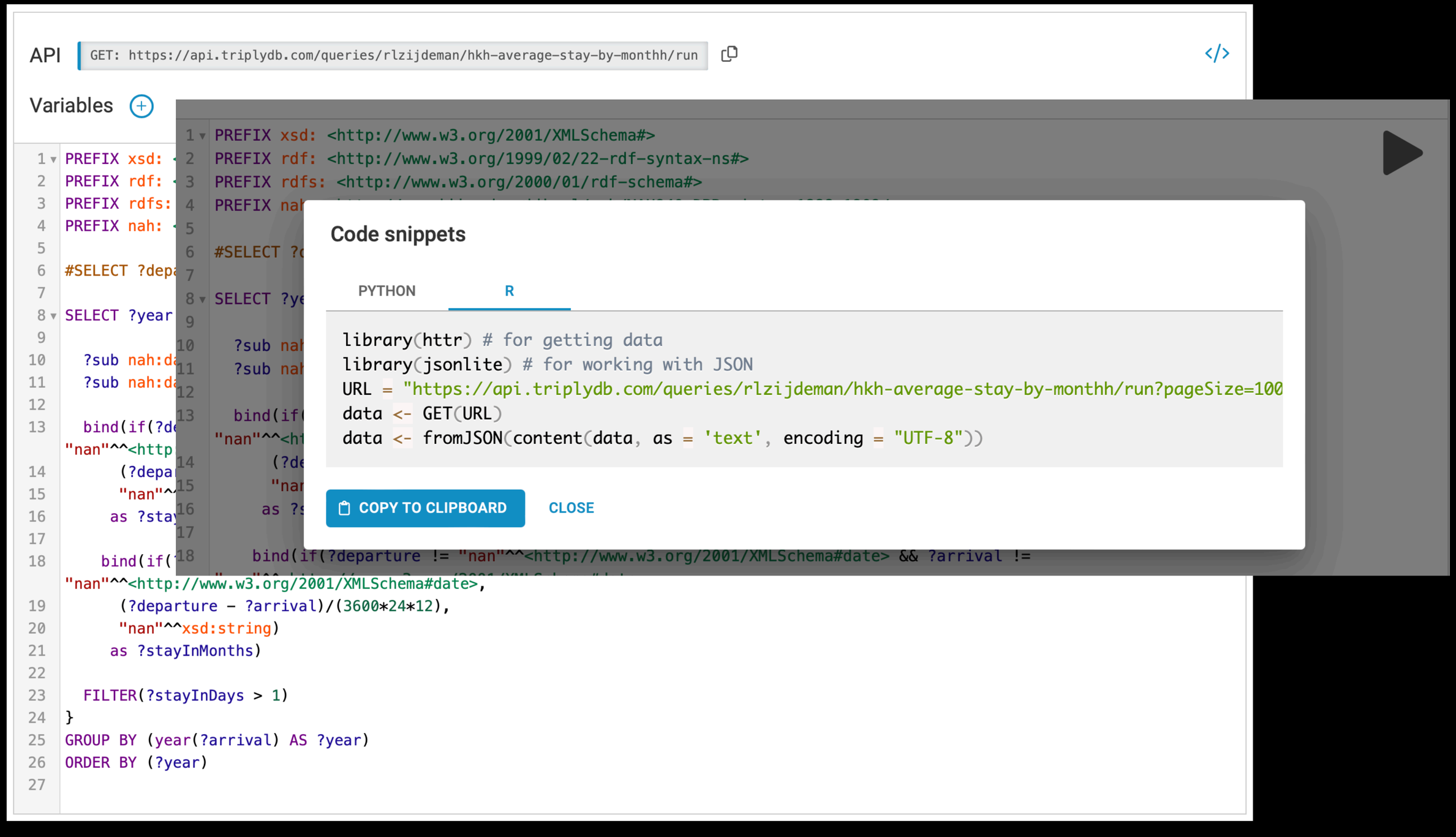
o

Religion

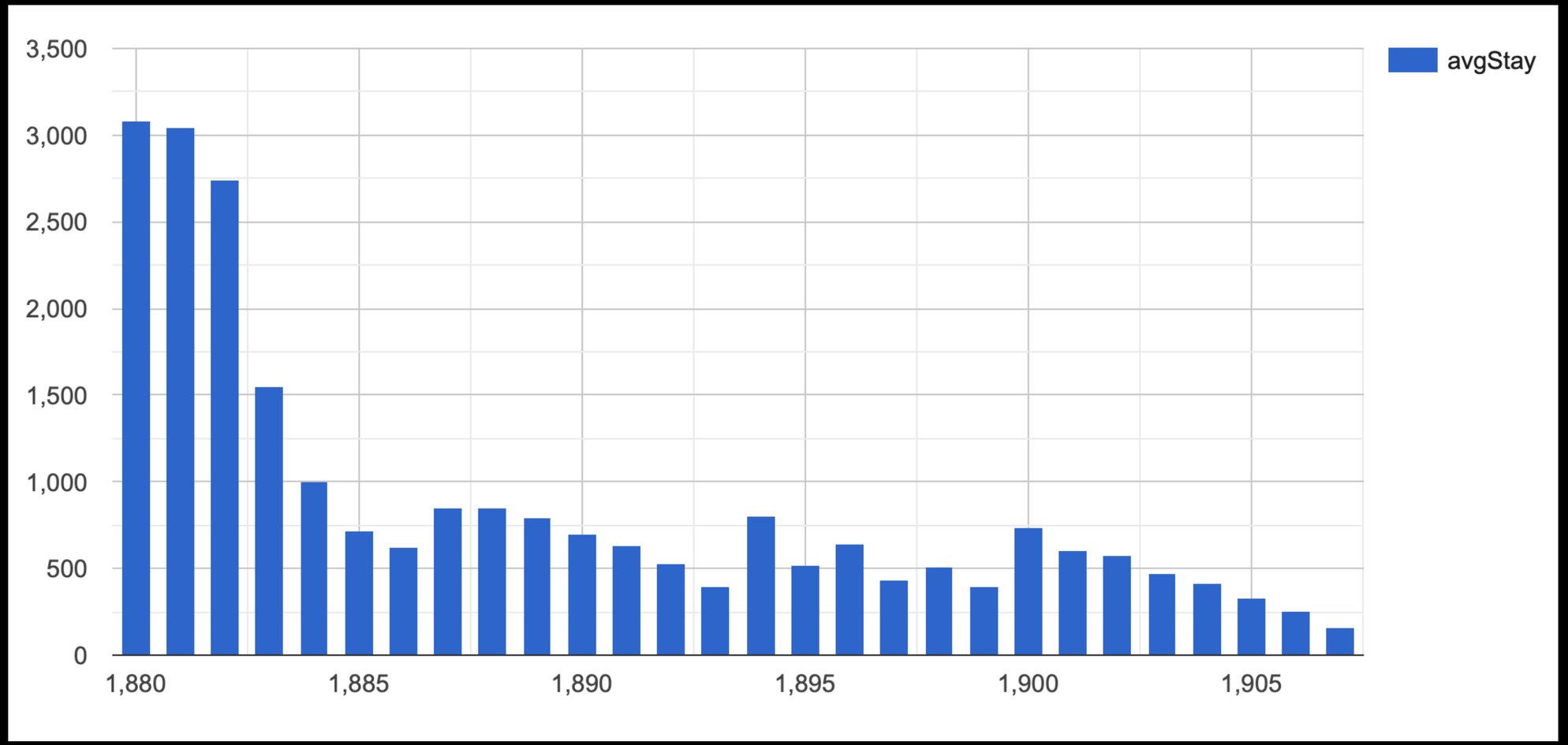
NH

Type

Person


API
GET: https://api.triplydb.com/queries/rlzijdeman/hkh-average-stay-by-monthh/run
Variables
PREFIX xsd: <http://www.w3.org/2001/XMLSchema#>
PREFIX rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#>
PREFIX rdfs: <http://www.w3.org/2000/01/rdf-schema#>
PREFIX nah:
#SELECT ?depa
SELECT ?year
?sub nah:da
?sub nah:da
bind(if(?de
"nan"^^<http
(?depa
"nan"^
as ?stay
bind(if(
"nan"^^<http://www.w3.org/2001/XMLSchema#date>,
(?departure - ?arrival)/(3600*24*12),
"nan"^^xsd:string)
as ?stayInMonths)
FILTER(?stayInDays > 1)
}
GROUP BY (year(?arrival) AS ?year)
ORDER BY (?year)
Code snippets
PYTHON
R
library(httr) # for getting data
library(jsonlite) # for working with JSON
URL = "https://api.triplydb.com/queries/rlzijdeman/hkh-average-stay-by-monthh/run?pageSize=100
data <- GET(URL)
data <- fromJSON(content(data, as = 'text', encoding = "UTF-8"))
COPY TO CLIPBOARD
CLOSE

Average stay in days



Where were maids born?

1	"545"^^xsd:integer	"Harderwijk"@nl
2	"42"^^xsd:integer	"Amsterdam"@nl
3	"28"^^xsd:integer	"Zwolle"@nl
4	"13"^^xsd:integer	"Amersfoort"@nl
5	"13"^^xsd:integer	"Haarlem"@nl
6	"12"^^xsd:integer	"Meppel"@nl
7	"11"^^xsd:integer	"Zwartsluis"@nl
8	"9"^^xsd:integer	"Arnhem"@nl
9	"9"^^xsd:integer	"Assen"@nl
10	"7"^^xsd:integer	"Doornspijk"@nl
11	"6"^^xsd:integer	"Hattem"@nl
12	"5"^^xsd:integer	"Dordrecht"@nl
13	"5"^^xsd:integer	"Hilversum"@nl
14	"4"^^xsd:integer	"Leiden"@nl
15	"4"^^xsd:integer	"Steenwijk"@nl
16	"4"^^xsd:integer	"Tilburg"@nl
17	"4"^^xsd:integer	"Weerselo"@nl

- Places are provided as strings
- Most places are available via DBPedia
- So we can query DBPedia for coordinates…
- and depict the results

Where were maids born?

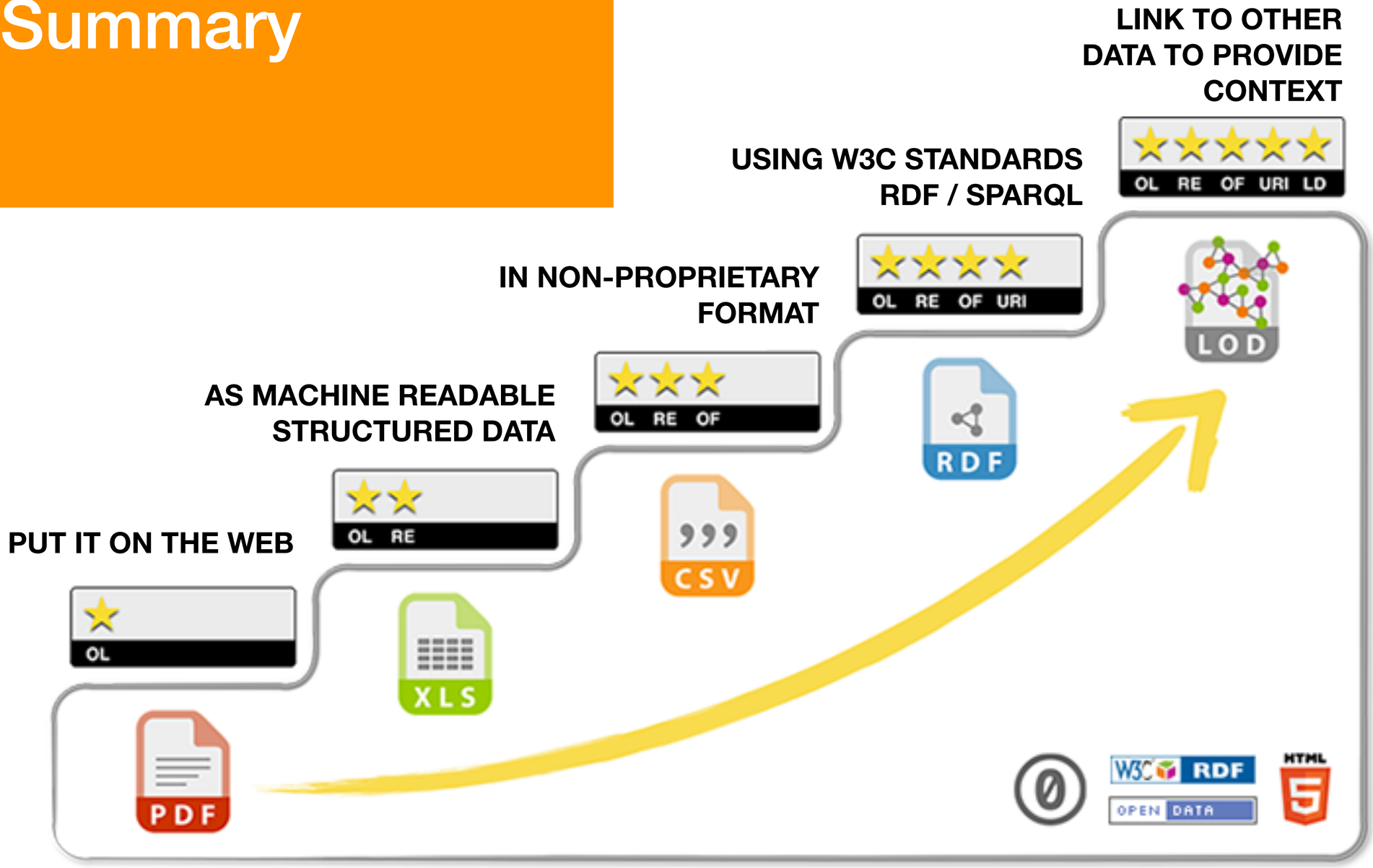
```
PREFIX sdo: <https://schema.org/>
PREFIX rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#>
PREFIX rdfs: <http://www.w3.org/2000/01/rdf-schema#>
PREFIX dbo: <http://dbpedia.org/ontology/>
PREFIX georss: <http://www.georss.org/georss/>
PREFIX geo: <http://www.opengis.net/ont/geosparql#>
PREFIX dbr: <http://dbpedia.org/resource/>

# Thanks to Wouter Beek for helping me out with this query!

select ?count ?birthPlace ?coordinate ?coordinateLabel {
  {
    select (strlang(?birthPlaceString,'nl') as ?birthPlace) (count(?sub) as ?count) {
      ?sub sdo:birthPlace ?birthPlaceString. # all individuals with a birthplace
    }
    group by ?birthPlaceString
    order by desc(?count)
  }
  # retrieve for all places in the Netherlands the coordinates
  service <https://dbpedia.org/sparql> {
    [] a dbo:Place;
      dbo:country dbr:Netherlands; # to limit the number of results, we don't want all places in the world
      rdfs:label ?birthPlace;
      georss:point ?Point .
    # DBPEDIA seems to have a different ordering of lat long so turning that around
    BIND(CONCAT(STRAFTER(?Point, " "), " ", STRBEFORE(?Point, " ")) as ?reversePoint)
    # turning our coordinates literal into a proper geo-type
    BIND(STRDT(CONCAT('POINT(',STR(?reversePoint),')'),geo:wktLiteral) as ?coordinate)
    #FILTER ( str( ?wktLabel) = "Ermelo")
  }
  bind('''<h3>{{birthPlace}}</h3><p>Count: {{count}}</p>'''^^rdf:HTML as ?coordinateLabel)
}
limit 17 # 4 or more occurrences
```

Query at:
https://triplydb.com/rlzijdeman/-/queries/Query-1/5

Summary


LINK TO OTHER DATA TO PROVIDE CONTEXT
OL RE OF URI LD
USING W3C STANDARDS RDF / SPARQL
OL RE OF URI
IN NON-PROPRIETARY FORMAT
OL RE OF
AS MACHINE READABLE STRUCTURED DATA
OL RE
PUT IT ON THE WEB
OL
LOD
RDF
CSV
XLS
PDF
RDF
OPEN DATA
HTML
5

Next steps

- Advocate this approach to the NDE (Dutch National Heritage Network)
- Enhance sample with (linked) data:
  - Use burgerLinker to link data to LINKS (civil registers)
  - Expand to other (Harderwijk) local samples
  - Also convert other variables (such as religion and occupation)