

# Disclosing Domestic Servants Registries as Linked Open Data

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CLARIAH

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

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

# 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’)

# 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)

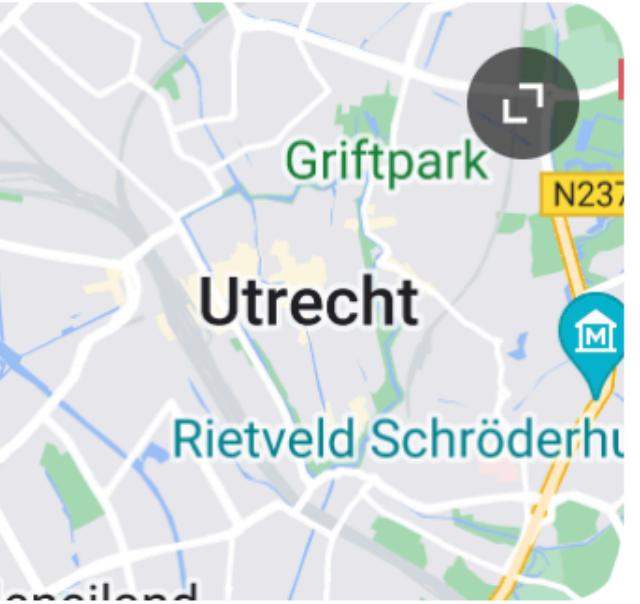
[https://www.ted.com/talks/tim\\_berners\\_lee\\_on\\_the\\_next\\_web](https://www.ted.com/talks/tim_berners_lee_on_the_next_web)

# The Next Web



# Utrecht

City in the Netherlands ::



Utrecht is a city in the Netherlands, known for its medieval center. It has tree-lined canals, Christian monuments and a venerable university. The iconic Domtoren, a 14th-century bell tower with city views, stands opposite the Gothic Cathedral of St. Martin on central Domplein square. The Museum Catharijneconvent shows religious art and artifacts in a former monastery. — Google

**Population:** 1.307 million (2019) [Eurostat](#)

**Area code:** 030

**Metro population:** 656,342

**Mayor:** [Sharon Dijksma](#)

**Local time:** Thursday 06:41

**Area:** 99.21 km<sup>2</sup>

**Elevation:** 5 m

# You've probably used it already!

## Harderwijk

### Municipality



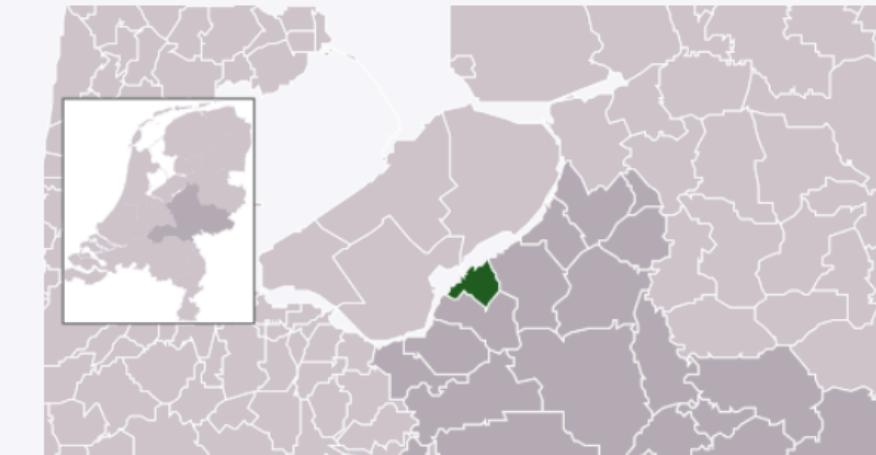
Harbour of Harderwijk seen from windmill De Hoop



Flag



Coat of arms



Location in Gelderland

Coordinates: 52°21'N 5°37'E

#### Country

Netherlands

#### Province

Gelderland

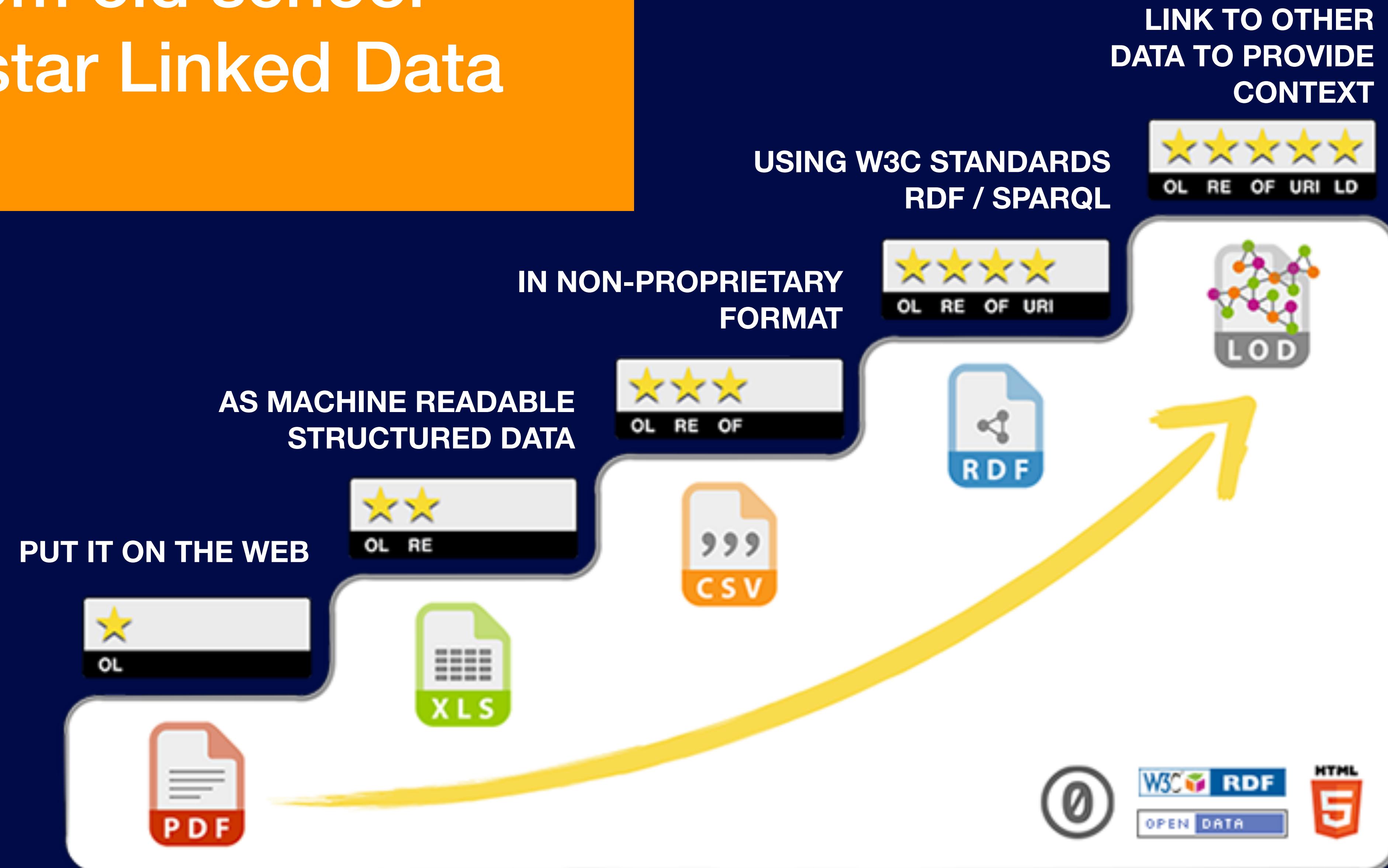
#### Government<sup>[1]</sup>

- Body [Municipal council](#)
- Mayor [Harm-Jan van Schaik \(CDA\)](#)

#### Area<sup>[2]</sup>

- Total [48.27 km<sup>2</sup> \(18.64 sq mi\)](#)

# 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)
- “Utrecht” -> <https://dbpedia.org/page/Utrecht>

# Linked Data (RDF)

Structure facts in triples (tripartite statements):

ID	birthPlace
1	Utrecht
...	...

<id1>

<hasBirthPlace>

<Utrecht>

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

<<https://schema.org/birthPlace>>

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

# Data

- Dienstboden ('domestic service') register 1888-1909
  - [1873-1880, 1880-1887, 1906-1919]
- Data entry by volunteers of the Historical Association 'Herderwijk'
- Data provided by Historical Knowledge Center Harderwijk
  - Basic cleaning (mainly of dates and incorrect fields)
  - N\_unique = 1519 (N\_raw=1880)



The screenshot shows a website for the Historisch Kenniscentrum Harderwijk. The header includes the logo 'Historisch Kenniscentrum Harderwijk' and a navigation menu with links to Home, Genealogie, Jaarboeken, Recognitie, Straten, Vittepraetjes, and Nieuws. The main content area features a banner with the text 'Bevolkingsregisters uit het Nieuw Archief van Harderwijk 1813-1943'. Below the banner are eight white callout boxes containing links to historical records, each with a yellow 'KLIK HIER' button.

**Historisch Kenniscentrum Harderwijk**

<https://www.hkharderwijk.nl/overige/>

Historisch Kenniscentrum Harderwijk

www.hkharderwijk.nl/overige/

Bevolkingsregisters uit het Nieuw Archief van Harderwijk 1813-1943

inv Nieuw Archief Harderwijk 1813-1943 [KLIK HIER](#)

inv 794 militairen Oranje Nassau kazerne 1830.pdf [KLIK HIER](#)

inv 934 Dienstbodenregister 1873-1880 [KLIK HIER](#)

inv 939 Dienstbodenregister 1880-1887 [KLIK HIER](#)

inv 940 Dienstbodenregister 1887-1909 [KLIK HIER](#)

inv 941 Dienstbodenregister 1906-1919 [KLIK HIER](#)

inv 938 inhoud [KLIK HIER](#)

inv 938 Bevolkingsregister militairen 1882-1920 [KLIK HIER](#)

# Variables

Dienstbodenregister Harderwijk 1888-1909

inventaris NAH 940

inschr	3=familienaam	4=voornaam	geb.dd	geb.pl.	9=BS 11=relgie	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 de Hondt	17-03-1884	Amsterdam	24-09-1887	Zwartsluis	Blad 1
---	---	---	---	---	---	---	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
- (civil status)
- hostName
- placeComingFrom
- givenName
- religion
- comments
- dateOfArrival
- dateOfBirth
- (occupation)
- placeLeavingTo
- placeOfBirth
- 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/rizijdeman/hkh-maids>

# Data ‘live’ available

- Hosted via Triply’s triple store:

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

The screenshot shows the Triply triple store interface. The top navigation bar includes a logo, the user name 'rlzijdeman / hkh-dienstboden-register', a search bar, and a settings icon. The main content area displays the dataset 'Dienstboden Register Harderwijk 1888-1909' created by 'Silk' a year ago with 37.601 statements. It features a thumbnail image of a building, a brief description of the register of maids from Harderwijk, and links to queries and graphs. The sidebar on the left provides navigation links for Browser, Table, SPARQL, Graphs, Services, Assets, and Insights.

Dienstboden Register Harderwijk 1888-1909

by Silk

Created a year ago  
37.601 statements

Register of maids ('dienstboden') of the town of Harderwijk as provided by the Historisch Kenniscentrum Harderwijk. There are a few queries available to get started with:  
<https://triplydb.com/rlzijdeman/-/queries>

License  
CC-BY-SA

Topics  
[history](#) [history ▶ archives](#)

Graphs [↓](#)  
default

Example resources  
[1866](#) [569](#) [1140](#) [569](#)

Dependent queries

- [hkh-average-stay-by-year](#)
- [servants-stay-duration-1](#)
- [servants-stay-duration](#)

Show all 5 queries...

< 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/rizijdeman/hkh-average-stay-by-monthh/run

&lt;/&gt;

## Variables +

```
1 PREFIX xsd: <http://www.w3.org/2001/XMLSchema#>
2 PREFIX rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#>
3 PREFIX rdfs: <http://www.w3.org/2000/01/rdf-schema#>
4 PREFIX nah: <http://nah.org/ns/>
5
6 #SELECT ?dep
7
8 #SELECT ?dept
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
```

## Code snippets

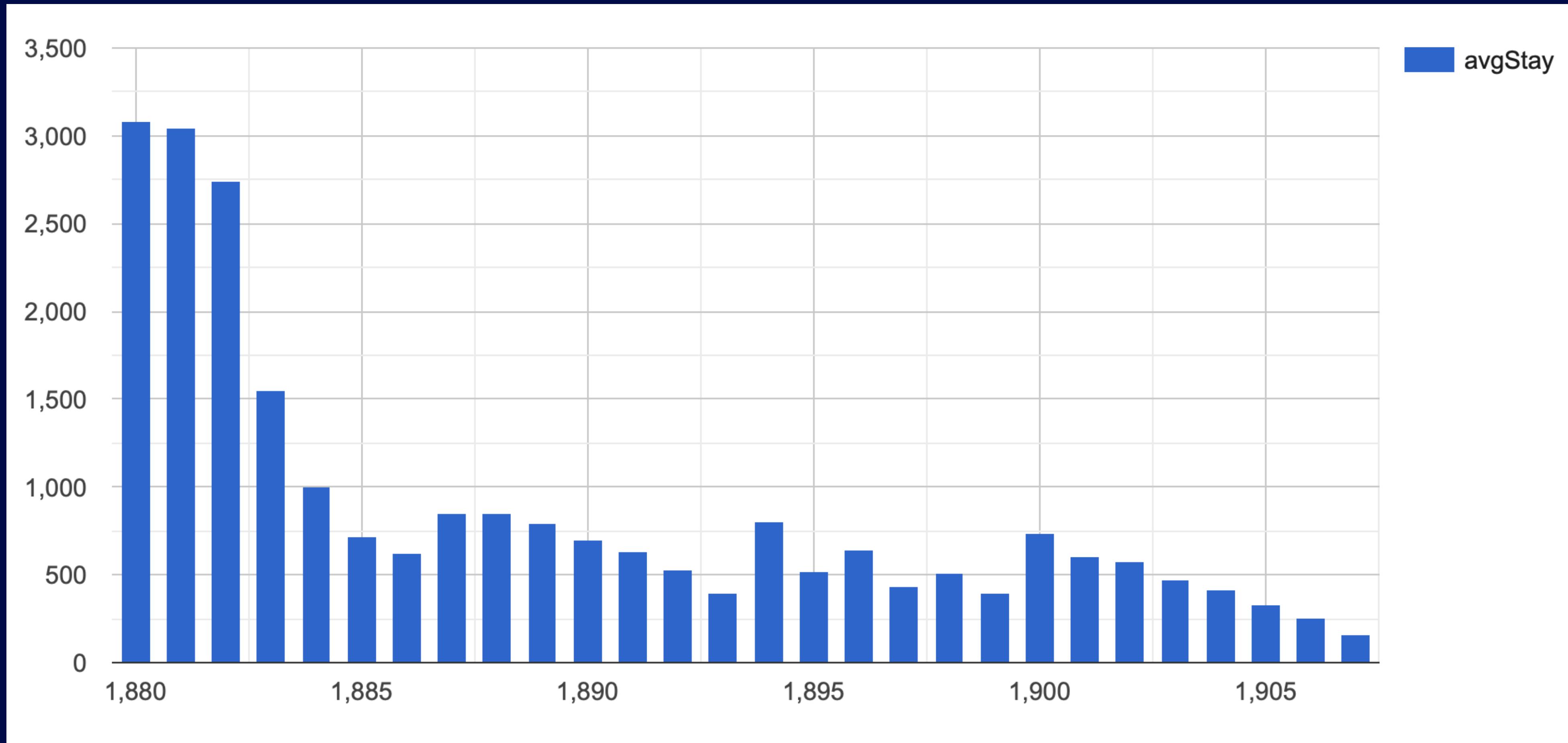
PYTHON

R

```
library(httr) # for getting data
library(jsonlite) # for working with JSON
URL = "https://api.triplydb.com/queries/rizijdeman/hkh-average-stay-by-monthh/run?pageSize=100"
data <- GET(URL)
data <- fromJSON(content(data, as = 'text', encoding = "UTF-8"))
```

COPY TO CLIPBOARDCLOSE

# Average stay in days



# Where were maids born?

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

```
1 PREFIX sdo: <https://schema.org/>
2 PREFIX rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#>
3 PREFIX rdfs: <http://www.w3.org/2000/01/rdf-schema#>
4 PREFIX dbo: <http://dbpedia.org/ontology/>
5 PREFIX georss: <http://www.georss.org/georss/>
6 PREFIX geo: <http://www.opengis.net/ont/geosparql#>
7 PREFIX dbr: <http://dbpedia.org/resource/>
8
9 # Thanks to Wouter Beek for helping me out with this query!
10
11 select ?count ?birthPlace ?coordinate ?coordinateLabel {
12 {
13   select (strlang(?birthPlaceString,'nl') as ?birthPlace) (count(?sub) as ?count) {
14     ?sub sdo:birthPlace ?birthPlaceString. # all individuals with a birthplace
15   }
16   group by ?birthPlaceString
17   order by desc(?count)
18 }
19 # retrieve for all places in the Netherlands the coordinates
20 service <https://dbpedia.org/sparql> {
21   [] a dbo:Place;
22   dbo:country dbr:Netherlands; # to limit the number of results, we don't want all places in the world
23   rdfs:label ?birthPlace;
24   georss:point ?Point .
25   # DBPEDIA seems to have a different ordering of lat long so turning that around
26   BIND(CONCAT(STRAFTER(?Point, " "), " ", STRBEFORE(?Point, " ")) as ?reversePoint)
27   # turning our coordinates literal into a proper geo-type
28   BIND(STRDT(CONCAT('POINT(',STR(?reversePoint),)'),geo:wktLiteral) as ?coordinate)
29   #FILTER ( str( ?wktLabel) = "Ermelo")
30 }
31 bind('''<h3>{{birthPlace}}</h3><p>Count: {{count}}</p>'''^^rdf:HTML as ?coordinateLabel)
32 }
33 limit 17 # 4 or more occurrences
```



Query at:

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

# WORKFLOW / TOOLS

CSV  
to  
Linked Data

LDWizard

CoW

Publish Linked Data

burgerLinker

Publish LD Queries

druid

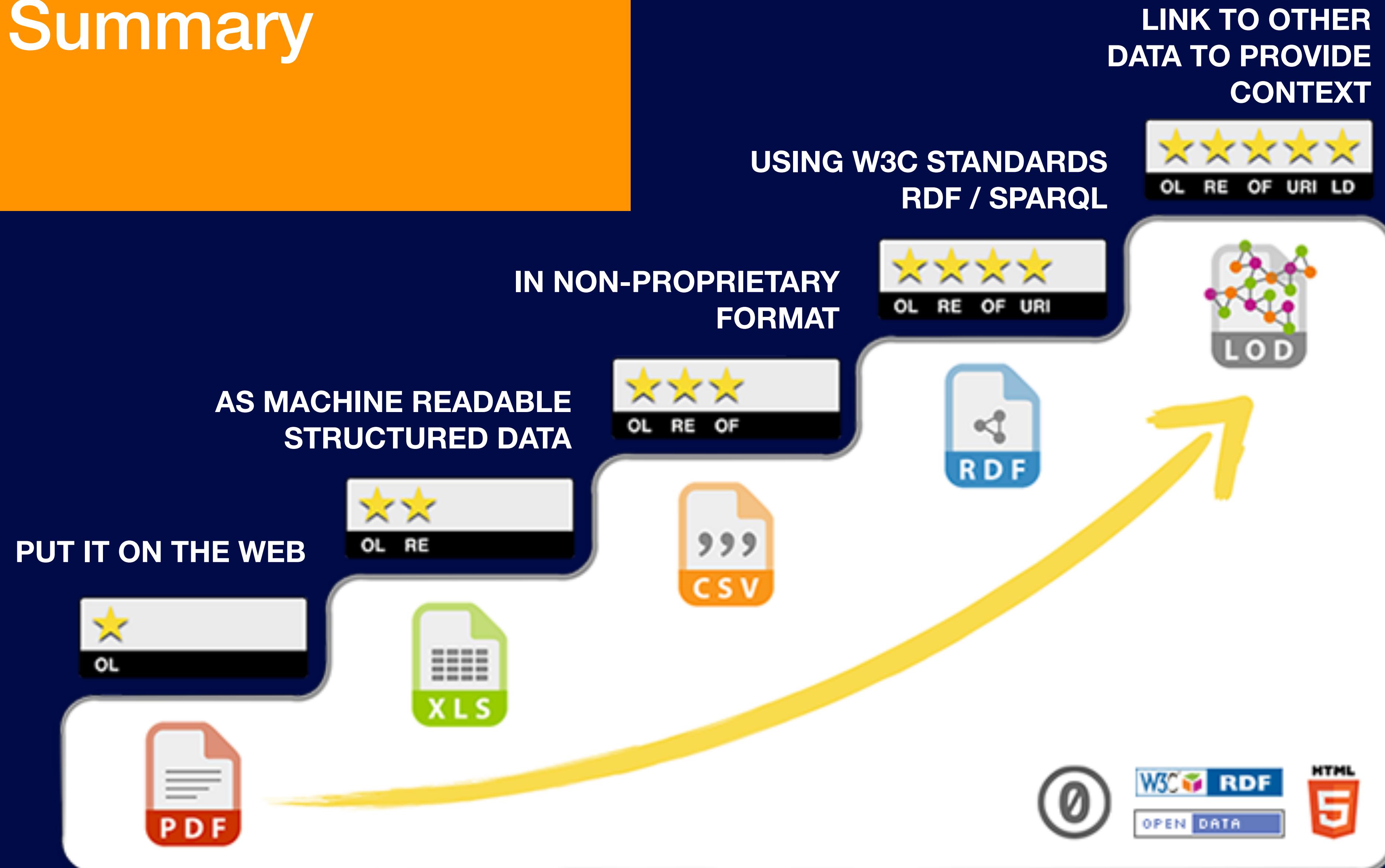
grlc.io

HSNDB:LINKS



Domestic  
Service  
Observation

# Summary





# 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)

# 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