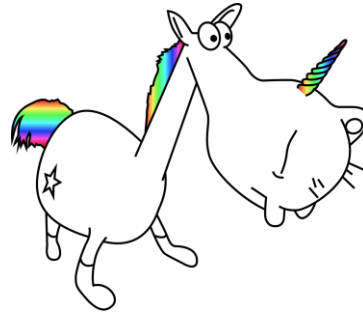
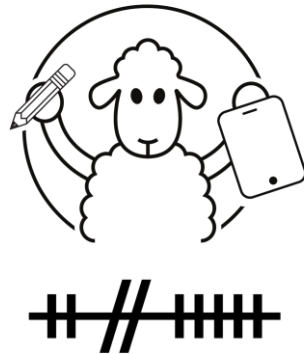
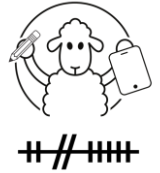


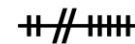
Sophie C. Schmidt & Florian Thiery



SPARQLing Stones

New options for analysing analog editions
by digitisation in Wikidata

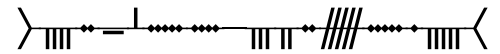




We are Research Squirrels
and interested in Open
Science, **Linked Data** and



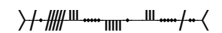
Sophie & Florian



@idhrenil @fthierygeo

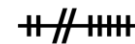


Martina & Timo



Research Squirrel Engineers

<http://squirrel.link>



UCC Stone Corridor, Stone 4, C11C 81 (Florian Thiery) CC BY 4.0

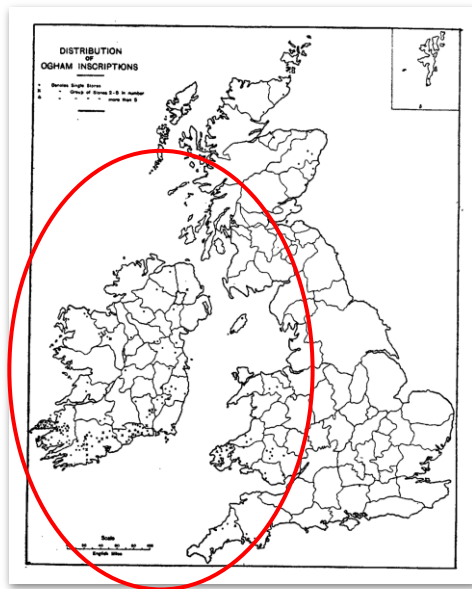


4th-9th century AD

Distribution:

Ireland
(+Wales, England, Isle of Man)

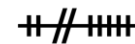
Information on people
and their families /
tribal affiliation



[R.A.S. Macalister, Corpus inscriptionum insularum Celticarum, vol. I \(1945\)](#) / p.502

Ogham Inscriptions

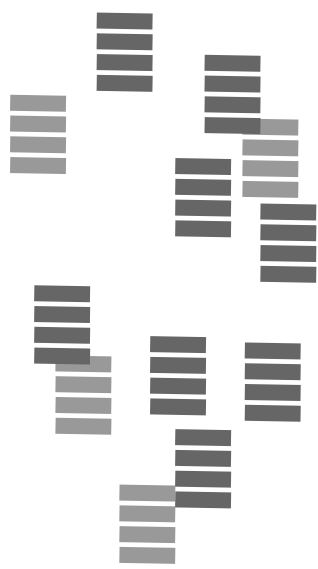




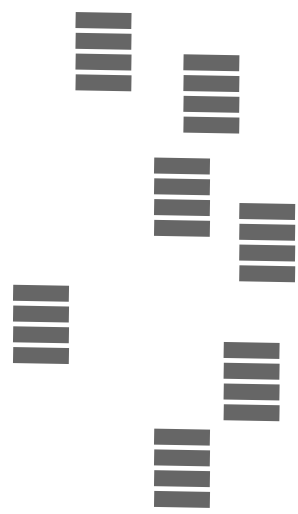
local (offline)



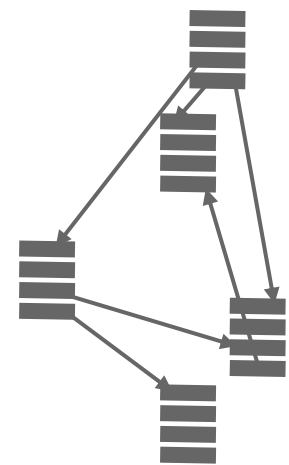
online



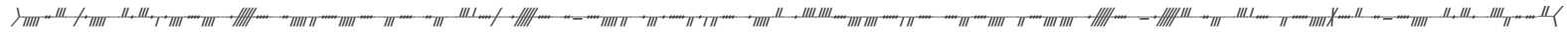
online & open



part of LOD



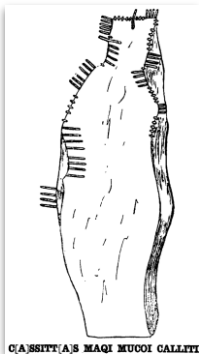
Not many databases are online. Few of them are openly available and accessible. Even less are part of the Linked Open Data Cloud.



I want to look at all Ogham Stones from Ireland.. Where do I find them?



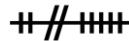
R.A.S. Macalister, Corpus inscriptionum insularum Celticarum, vol. I (19045)



UCC Stone Corridor, Stone 4, CIIC 81 (Florian Thiery) CC-BY 4.0



Linked Ogham??



Online & Open:
3D Ogham Project:

<https://ogham.celt.dias.ie>

Heritage Management:

<http://webgis.archaeology.ie/historicenvironment/>

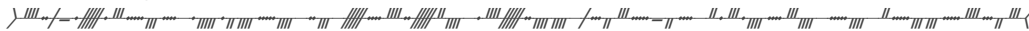
Online: CISP

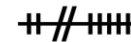
<https://www.ucl.ac.uk/archaeology/cisp/database/>

Offline:

CIIC by Macàlister
div. publications

Comparative analysis of records across multiple datasets is difficult





I could use...



WIKIDATA

[wikidata.org](https://www.wikidata.org)



Do you know Wikidata?

How do I link these data sets?





- ❖ **A free and open knowledge base**
→ **everybody can add and edit**
- ❖ central storage for structured data of **Wikimedia** projects

data in **Wikidata** is:

- ❖ available under a free license (CC 0)
- ❖ multilingual
- ❖ [accessible](#) to humans and machines (GUI & API & SPARQL)
- ❖ [exportable](#) using standard formats (JSON, RDF, XML)
- ❖ interlinked to other open data sets on the LOD Cloud



What is Wikidata?





link to existing information: OSM data, CISP data set

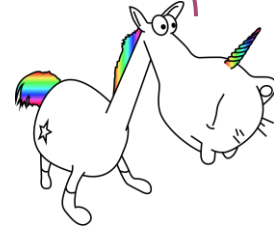


input into wikidata, link to existing datasets in wikidata



extract information on ogham stones: townland, barony, county

map databases via location and textual information (content of stones)



extract enriched data with the help of the **SPARQL unicorn**



further analysis with open source software



Macálistér 1945

From analog catalogues to LOD and further...



Label	en	judgment	matched	100.00 — 101.00
1	Q1708299	en	CIC 295	Open Stone CIC 295
2	Q1708302	en	CIC 296	Open Stone CIC 296
3	Q1708303	en	CIC 297	Open Stone CIC 297
4	Q1708305	en	CIC 298	Open Stone CIC 298
5	Q1708303	en	CIC 298	Open Stone CIC 298
6	Q1708310	en	CIC 300	Open Stone CIC 300
7	Q1708310	en	CIC 301	Open Stone CIC 301
8	Q1708317	en	CIC 302	Open Stone CIC 302
9	Q1708320	en	CIC 303	Open Stone CIC 303
10	Q1708323	en	CIC 304	Open Stone CIC 304
11	Q1708324	en	CIC 305	Open Stone CIC 305
12	Q1708320	en	CIC 304	Open Stone CIC 304
13	Q1708330	en	CIC 307	Open Stone CIC 307
14	Q1708334	en	CIC 308	Open Stone CIC 308
15	Q1708337	en	CIC 309	Open Stone CIC 309
16	Q1708344	en	CIC 310	Open Stone CIC 310
17	Q1708344	en	CIC 311	Open Stone CIC 311
18	Q1708347	en	CIC 312	Open Stone CIC 312
19	Q1708350	en	CIC 313	Open Stone CIC 313
20	Q1708352	en	CIC 314	Open Stone CIC 314

<https://openrefine.org/>
<https://tools.wmflabs.org/quickstatements/#/>



WikidataID lang_en label_en P1545_cic description_en alias_en lang_de label_de description_de alias_de P625_coord P189_place P17_country P189_c

Terms
 Label en label_en #
 if override if present

Statements
 part of Ogham Project
 country P17_coun #
 coordinate location P625_coord #
 subject has role archaeological site

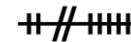
CIC 295 (Q1708299)
 Label (override if present): CIC 295 (English)
 country (P17): #Q17 (G27)
 description (P1854): #Q1854:48:MUJICIO EURQI(NONAS) (gsh)
 location of discovery (P189): #Q18586914 (Q18586914) applies to part (P518) #Q18586914 (Q18586914)
 part of (P361): #Q18586914 (Q18586914)
 coordinate location (P625): #Q18586914 (Q18586914) subject has role (P2068) #Q18586914 (Q18586914)

Stapel "Ogham" auf Wikidata von Fthierygeo [Stapel]
 Status: 0% (0) von 308 erledigt

1. add CIC 295 (Q1708299) Label en:"cic 295"
2. add CIC 295 (Q1708299) Statement part of (P361) : Ogham Project (Q1708299)
3. add CIC 295 (Q1708299) Statement country (P17) : Ireland (Q27)
4. add CIC 295 (Q1708299) Statement Sources to country (P17) : Ireland (Q27) stated in (P248) Corpus Inscriptionum Insularum Celticarum Vol.1 (Q17025627)
5. add CIC 295 (Q1708299) Statement coordinate location (P625) : 52.111389;7.6 (on Earth)
6. add CIC 295 (Q1708299) Statement Qualifier to coordinate location (P625) : 52.111389;7.6 (on Earth) subject has role (P2068) : archaeological site (Q189954)
7. add CIC 295 (Q1708299) Statement Sources to coordinate location (P625) : 52.111389;7.6 (on Earth) stated in (P248) Corpus Inscriptionum Insularum Celticarum Vol.1 (Q17025627)
8. add CIC 295 (Q1708299) Statement location of discovery (P189) : Knockboy Townland (Q18586914)
9. add CIC 295 (Q1708299) Statement Sources to location of discovery (P189) : Knockboy Townland (Q18586914) stated in (P248) Corpus Inscriptionum Insularum Celticarum Vol.1 (Q17025627)
10. add CIC 295 (Q1708299) Statement location of discovery (P189) : County Waterford (Q184694)

Erste Seite 1 Nächste Letzte
 Start Start (m Hintergrund) All 0 Fehler 0 Init 10

Wikidata import using OpenRefine & QuickStatements



CIIC 81 (Q69385424)

Ogam Stone CIIC 81

Ogam Stone 4 (Stone Corridor at UCC)



[In more languages](#)

[Configure](#)

Language	Label	Description	Also known as
English	CIIC 81	Ogam Stone CIIC 81	Ogam Stone 4 (Stone Corridor a...
German	CIIC 81	Ogam Stein CIIC 81	Ogam Stein 4 (Stone Corridor at...
British English	No label defined	No description defined	
Polish	No label defined	No description defined	

Statements

instance of

ogham stone



1 reference

+ add value

part of

Ogam Stones



1 reference

Ogi-Ogam Project



0 references

+ add reference

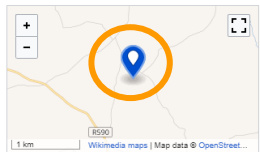
+ add value

CIIC 81 @ Stone Corridor University College Cork, No. 4

<https://www.wikidata.org/wiki/Q69385424>



country: Ireland edit
1 reference
+ add value

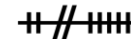
coordinate location edit

51°48'59.000"N, 8°45'42.001"W
subject has role: archaeological site
1 reference
+ add value

material used edit
stone edit
1 reference
+ add value

collection edit
Stone Corridor University College Cork edit
1 reference
Ogham Stones w/o collection reference edit
1 reference
+ add value

CIIC 81 @ Stone Corridor University College Cork, No. 4

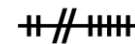
<https://www.wikidata.org/wiki/Q69385424>



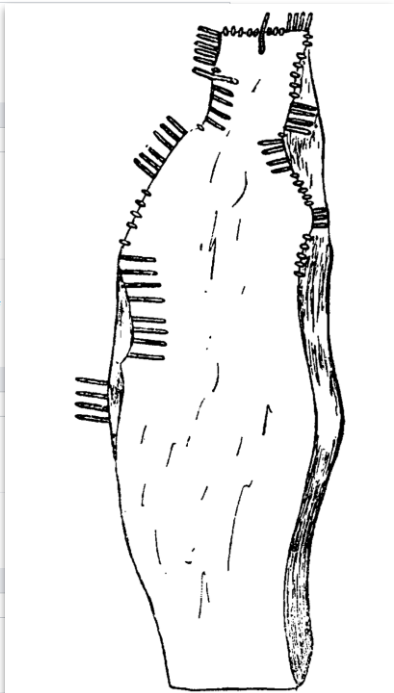
location of discovery	<div><div><div>QID County Cork edit</div><div>› 1 reference</div></div><div><div>QID Garranes Townland edit</div><div>› 1 reference</div></div></div> <div>+ add value</div>
length	<div><div><div>QID 17.78 centimetre edit</div><div>› 1 reference</div></div></div> <div>+ add value</div>
height	<div><div><div>QID 175.26 centimetre edit</div><div>› 1 reference</div></div></div> <div>+ add value</div>
width	<div><div><div>QID 48.26 centimetre edit</div><div>› 1 reference</div></div></div> <div>+ add value</div>

CIIC 81 @ Stone Corridor University College Cork, No. 4

<https://www.wikidata.org/wiki/Q69385424>



inscription	<p>Q66 C[A]SSITT[A]S MAQI MUCOI CALLITI (Irish)</p> <p>Q66 C[A]SSITT[A]S MAQI MUCOI CALLITI (Irish) <i>presumably</i></p> <p>› 1 reference</p>
series ordinal	<p>Q66 81</p> <p>criterion used Corpus Inscriptionum Insularum Celticarum Vol.1</p> <p>› 1 reference</p>
	<p>Q66 4</p> <p>criterion used Stone Corridor University College Cork</p> <p>› 1 reference</p>
inscription mentions	<p>Q66 MAQI</p> <p>› 1 reference</p>
	<p>Q66 MUCOI</p> <p>› 1 reference</p>
state of conservation	<p>Q66 preserved</p> <p>› 1 reference</p>



R.A.S. Macalister. Corpus inscriptionum insularum Celticarum, vol. I (1945)

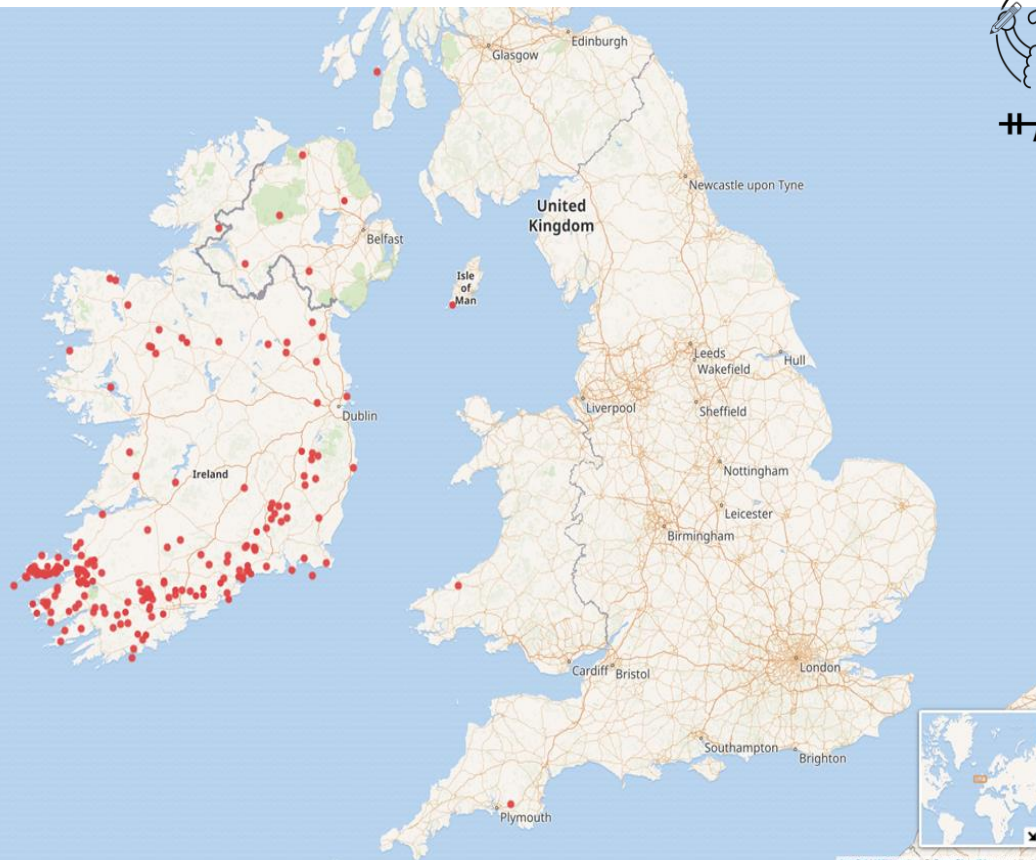
C[A]SSITT[A]S MAQI MUCOI CALLITI

CIIC 81 @ Stone Corridor University College Cork, No. 4

<https://www.wikidata.org/wiki/Q69385424>

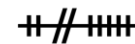


<http://ogham.link>



Wikidata View

<https://w.wiki/HRe>



Most of the tools require knowledge of SPARQL. Queries can become very complex.

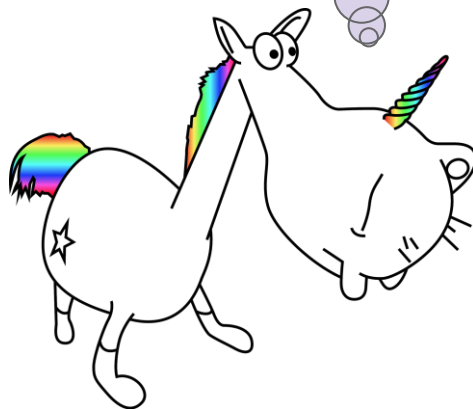


```
1 SELECT ?date ?work ?workLabel ?topics (GROUP_CONCAT(DISTINCT
separator=" // " ) AS ?places) (GROUP_CONCAT(?authorLabel; separator="
authorstrings) (GROUP_CONCAT(?editorLabel; separator=" - " )
2 WITH {
3 SELECT DISTINCT ?work WHERE {
4 ?work wdt:P921 / (wdt:P361+ | wdt:P1269+ | (wdt:P31* / wd
5 }
6 } AS %works
7 WITH {
8 SELECT (MIN(?dates) as ?datetime) ?work (GROUP_CONCAT(?topic
9 INCLUDE %works
10 ?work wdt:P921 ?topic .
11 FILTER NOT EXISTS {
12 ?topic wdt:P31 wd:Q839954} .
13 FILTER NOT EXISTS {
14 ?topic wdt:P31 wd:Q220659}
15 OPTIONAL { ?work wdt:P577 ?dates . }
16
17 ?topic rdfs:label ?topic_label . FILTER (lang(?topic_label
18 )
19 GROUP BY ?work
20 } AS %result
21 WHERE {
22 INCLUDE %result
23
24 OPTIONAL { ?work wdt:P50 ?author .
25 ?author rdfs:label ?authorLabel . FILTER (lang(?authorLabel
26 )
27 # no extra label assignment here, because we already have a
28 OPTIONAL { ?work wdt:P2093 ?authorstring . }
29 OPTIONAL { ?work wdt:P98 ?editor .
30 ?editor rdfs:label ?editorLabel . FILTER (lang(?editorLabel
31 )
32 OPTIONAL { ?work wdt:P123 ?publisher . }
33
34 #collect related places (are in topic list; are instance of
35 OPTIONAL {?work wdt:P921 ?place
```



#//####

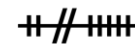
How can I help researchers without knowledge of SPARQL in using community driven data from Wikidata?



#LittleMinion
#SPARQLUnicorn

develop a 'SPARQL unicorn' as little minion to help researchers






Which Ogham Stones can be seen at UCC?



Wikidata Query Service

Examples Help More tools

1 (Input a SPARQL query or choose a query example)

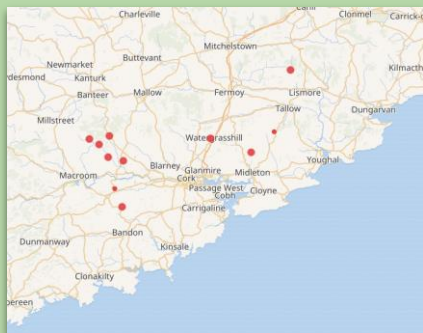


UCC ?

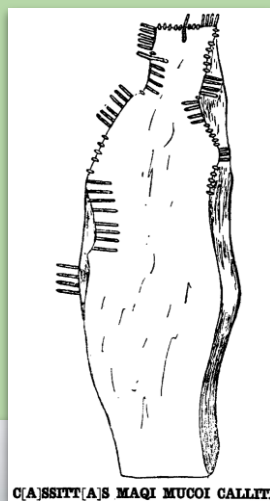
University College Cork, Ireland
Coláiste na hOllscoile Corcaigh
ucc.ie

w.wiki/HRt

query.wikidata.org



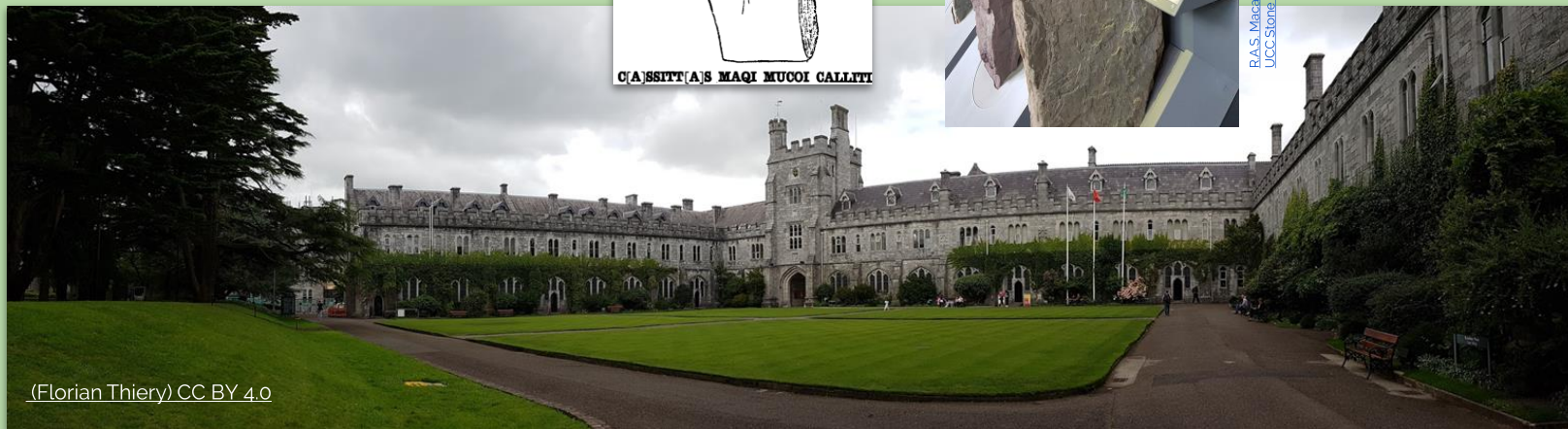
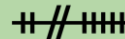
<https://w.wiki/HRT>



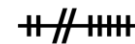
C[A]SSITT[A]S MAQI MUCCI CALLITI



R.A.S. Macalister. Corpus Inscriptionum Insularum Celticarum. vol. 1 (1946)
UCC.Stone Corridor. Stone 4. CIIC.81.(Florian Thiery).CC BY 4.0



(Florian Thiery) CC BY 4.0



I could use...



<https://plugins.qgis.org/plugins/sparqlunicorn/>



...the SPARQLing Unicorn QGIS Plugin...!

Query Wikidata in user-friendly plugins?





Browser

- GeoPackage
- Spatialite
- PostGIS
- MSSQL
- Oracle
- DB2
- WMS/WMTS
- XYZ Tiles
- OpenStreetMap

Layer

- unicorn_ogham_ucc
- OpenStreetMap

SPARQL Unicorn Wikidata Plugin

Query: Interlink | Enrich

Select endpoint: Wikidata -> ?geo required! | Or: Load From File | layer name: unicorn_ogham_ucc

Layer concept: | Query Templates: Item-Label

Constraint By Area Type: | Area: | Constraint By BBOX

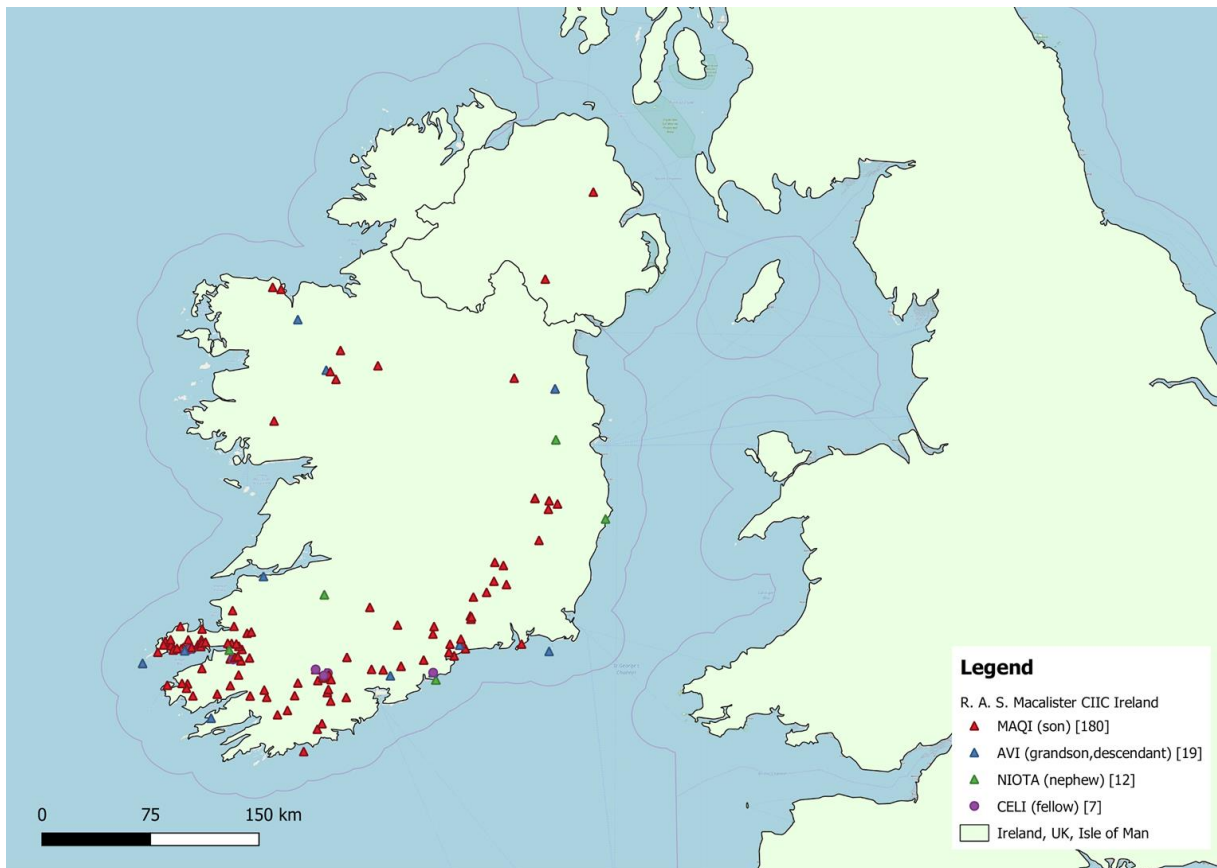
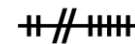
Valid Query

```
# Ogi Ogham Stones at UCC
SELECT ?label ?item ?geo ?country ?inscription WHERE {
  ?item wdt:P31 wd:Q2016147;
  wdt:P361 wd:Q70873595.
  OPTIONAL {
    ?item rdfs:label ?label.
    FILTER((LANG(?label)) = "en")
  }
  ?item wdt:P625 ?geo.
  OPTIONAL { ?item wdt:P17 ?countryWD. ?countryWD rdfs:label ?country.
  FILTER((LANG(?country)) = "en")}
  OPTIONAL { ?item wdt:P1684 ?inscription. }
  ?item wdt:P195 wd:Q69379477.
}
ORDER BY (?label)
```

add layer

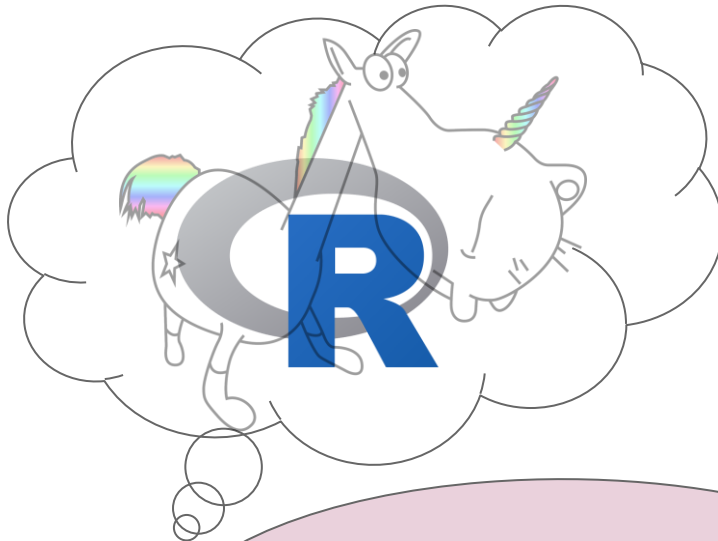
load unicorn layers | unicorn_ogham_ucc | Export Loaded Layer as TTL | Schließen

Koordinate: -1115744,7013937 | Maßstab: 1:1549023 | Vergrößerung: 100% | Drehung: 0,0 ° | Zeichen: EPSG:3857

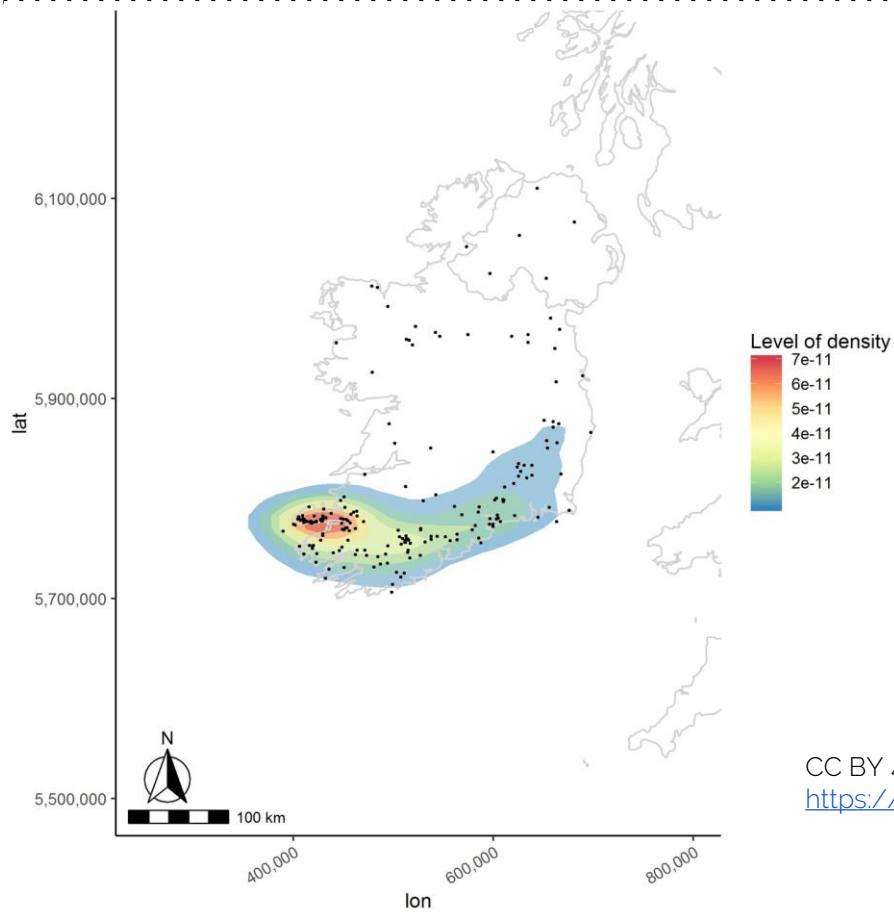




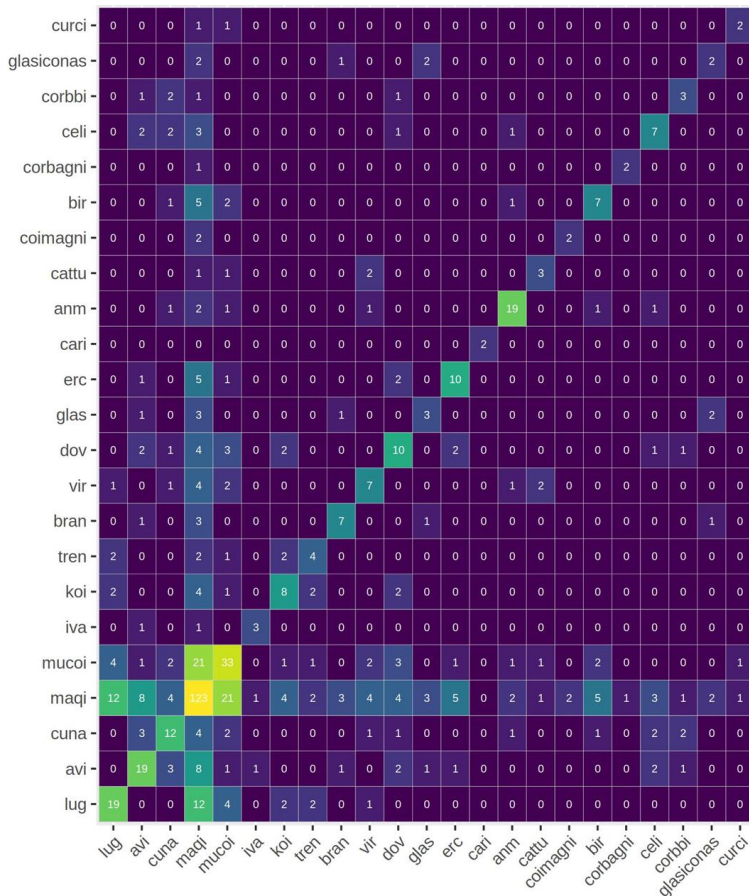
**I could
use...**



**...for statistical
analysis!**



CC BY 4.0, Sophie C. Schmidt, see:
<https://github.com/ogi-ogham/oghamaps>



Frequency of co-occurrence



CC BY 4.0, Sophie C. Schmidt, see:
<https://github.com/ogi-ogham/oghamaps>



Data Dragon

CAA SIG

“Semantics and LOUD
in Archaeology”



*“We would like to further establish **Linked Data** in **archeology**, enable **beginners** to use and produce Linked Data, invite other **scientists** for discussion, and embed LOD as an **important topic** through an **SIG** at the **CAA community**.”*

**Join our CAA SIG at
#CAAOxford or contact us!**

*sig@datadragon.link
datadragon.link*

Thx!

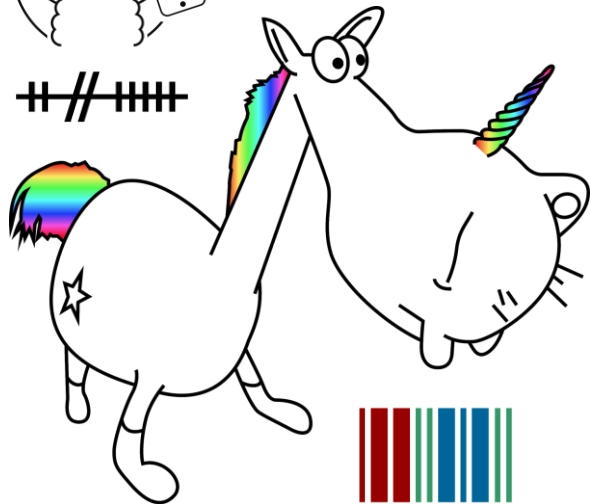
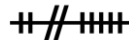
Any questions?

Mail

s.c.schmidt@uni-koeln.de
rse@fthiery.de

Wikidata

<https://www.wikidata.org/wiki/Q66606154>
<https://www.wikidata.org/wiki/Q71933512>



WIKIDATA



Related Literature

- **Macalister, Robert Alexander Stewart. 1996.** *Corpus Inscriptionum Insularum Celticarum*. Celtic Studies. Kill Lane, Blackrock, Co. Dublin, Ireland ; Portland, OR: Four Courts Press.
- **Adrian Bielefeldt, Julius Gonsior, Markus Krötzsch. 2018.** *Practical Linked Data Access via SPARQL: The Case of Wikidata*. In Tim Berners-Lee, Sarven Capadisli, Stefan Dietze, Aidan Hogan, Krzysztof Janowicz, Jens Lehmann, eds., Proceedings of the WWW2018 Workshop on Linked Data on the Web (LDOW-18), volume 2073 of CEUR Workshop Proceedings, 2018. CEUR-WS.org.
 - <https://iccl.inf.tu-dresden.de/w/images/8/85/Wikidata-SPARQL-queries-Bielefeldt-Gonsior-Kroetzsch-LDOW-2018.pdf>




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