

# Wikidata – Its place in the Open Data ecosystem



**Ian Watt**  
**Code The City (SC053557)**



Wikidata logo By Planemad - Own work, Public Domain,  
<https://commons.wikimedia.org/w/index.php?curid=20650833>

This presentation by Ian Watt, CC-BY-SA 4.0

# What is Open Data?

- Data that anyone can freely use, modify, and share.
- Open licences (e.g. CC-BY, CC0, OGL).
- Key principles: accessible, reusable, transparent.



# What is Linked Open Data?

- Originates from Tim Berners-Lee (2006)
- Structured data connected across datasets.
- Uses unique identifiers (URIs, Q-numbers).
- Makes the web of data possible.

See [https://en.wikipedia.org/wiki/Linked\\_data](https://en.wikipedia.org/wiki/Linked_data)

# The Wikimedia projects



**WIKIPEDIA**  
The Free Encyclopedia



**WIKIBOOKS**  
*Open books for an open world*



**WIKISOURCE**



**WIKINEWS**



**WIKIDATA**



**WIKIMEDIA  
COMMONS**



**MediaWiki**



**WIKIVERSITY**



**WIKISPECIES**  
*free species directory*



**Wiktionary**  
*The free dictionary*



**WIKIMEDIA  
INCUBATOR**



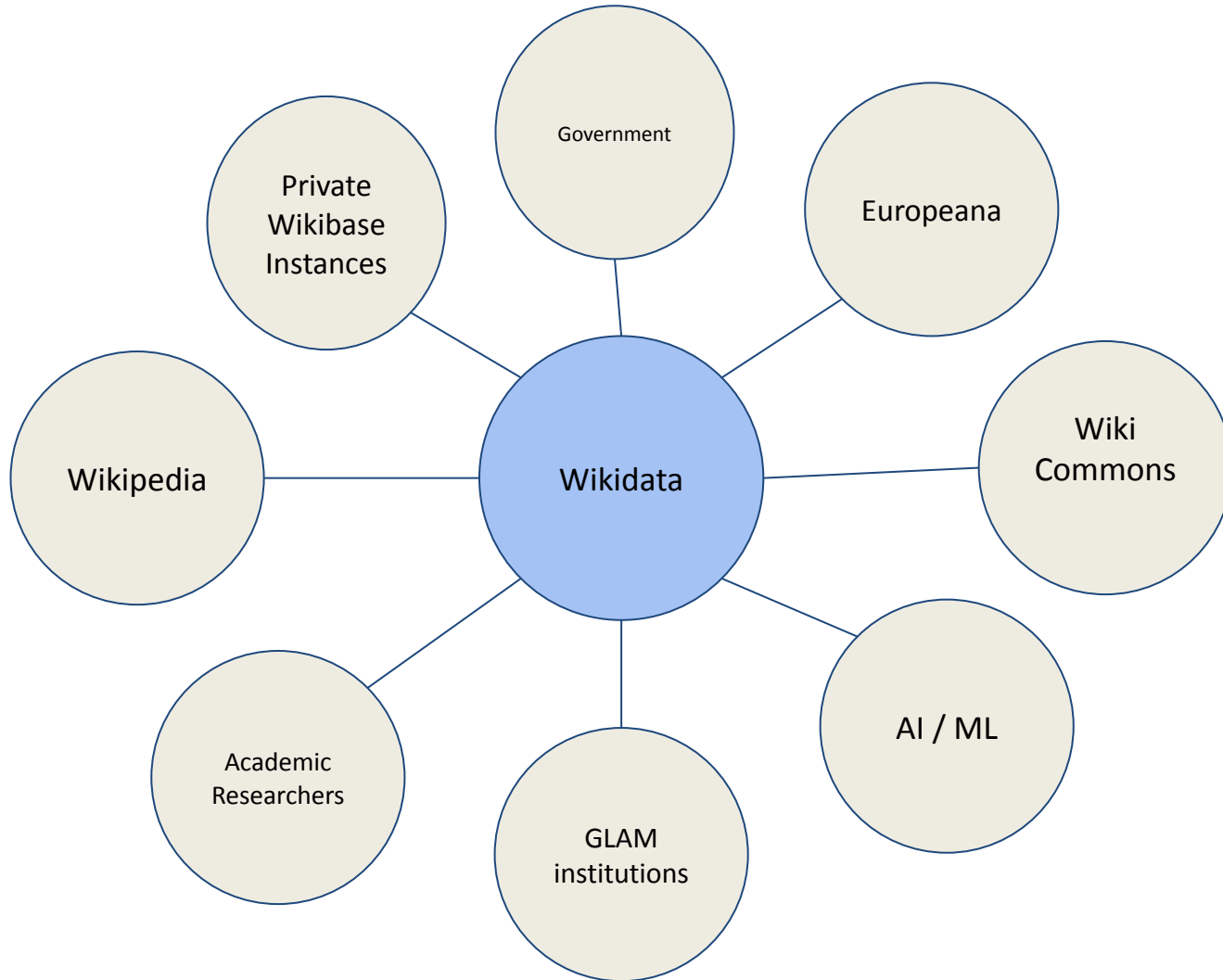
**WIKIMEDIA  
META-WIKI**



# Wikidata Basics

- <https://wikidata.org>
- Free, structured, multilingual knowledge base.
- Sister project of Wikipedia and others.
- CC0 licence – maximally reusable.
- Community-curated, machine-readable.

# Ecosystem Diagram

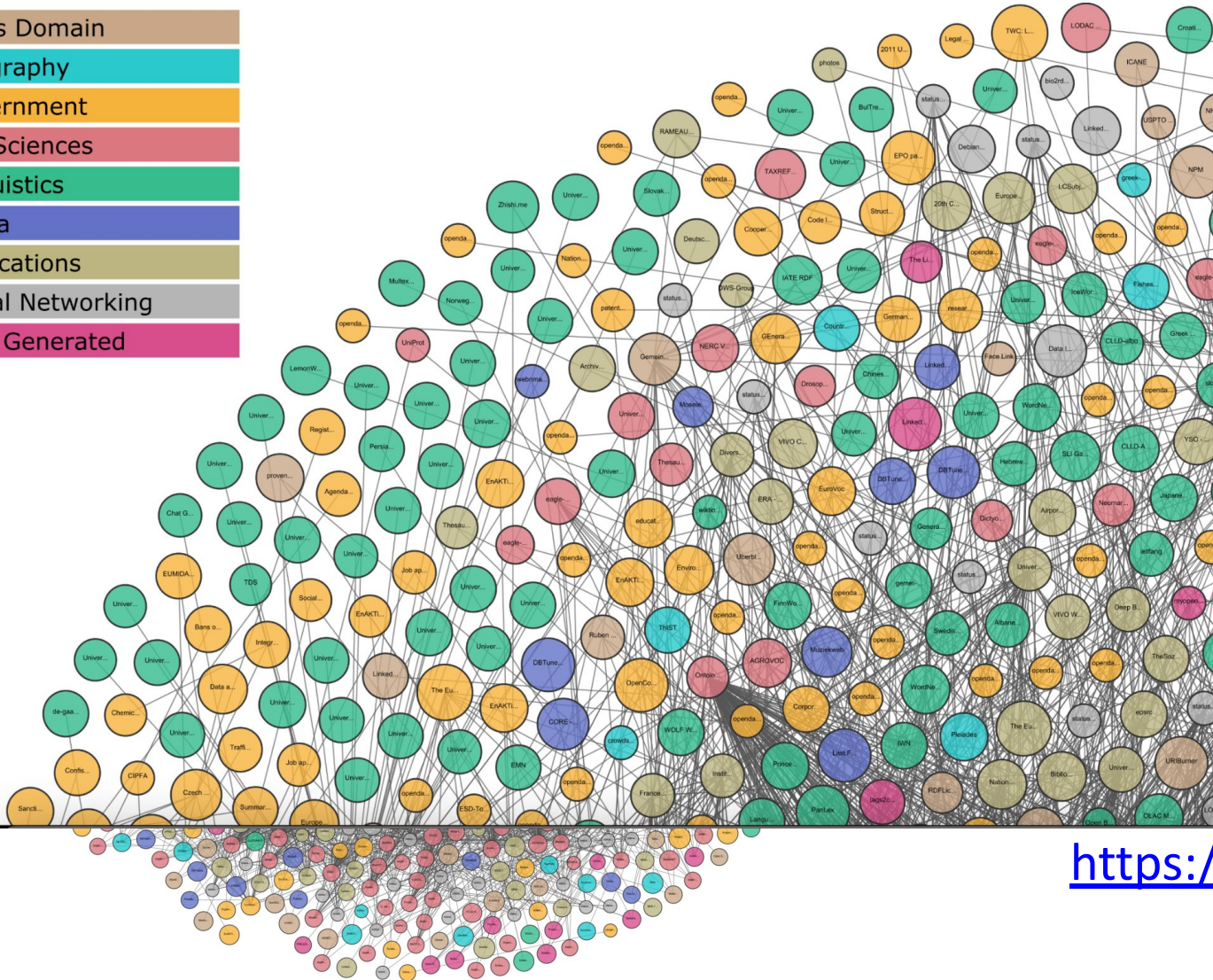


# Why Wikidata Matters

- Aggregator: pulls in data from many sources.
- Connector: links identifiers across domains.
- Publisher: widely reused by Google, Europeana (<https://www.europeana.eu/en>) , researchers.
- AI - uses not only Wikipedia content but also Wikidata (see [https://www.wikidata.org/wiki/Wikidata:Embedding\\_Project](https://www.wikidata.org/wiki/Wikidata:Embedding_Project) )



# Linked Open Data



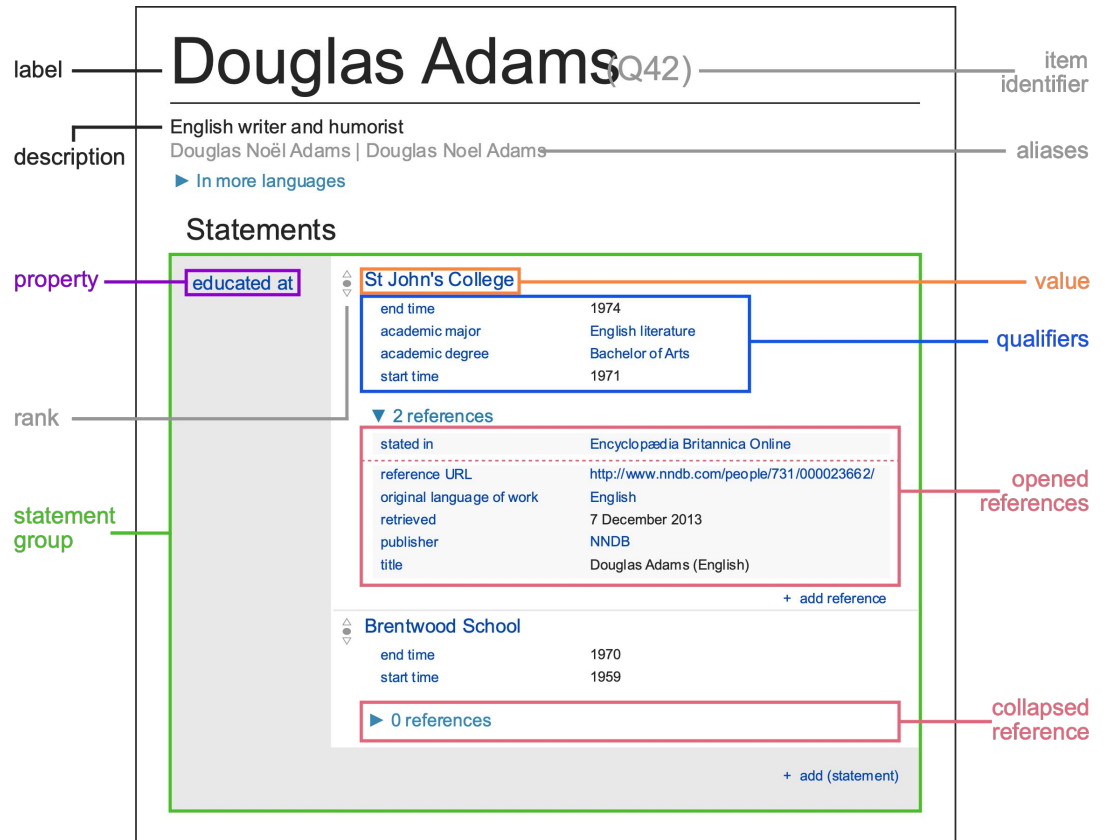
by John P.  
e, CC BY 4.0 ,  
imedia  
ons

<https://w.wiki/F8Fv>



# Example data

- Wikidata items identified by QIDs
- Q42



# Opportunities

- Easy contribution: anyone can edit.
  - Single manual edits, or bulk uploads / changes via [QuickStatements](#) or [OpenRefine](#)
- Immediate impact: data visible globally.
- Supports education, research, digital humanities.

# Challenges

- Size
  - 119,000,000 items
  - Graph split May 2025
- Data quality and consistency
  - constantly improving
- Gaps in coverage
- Reliance on volunteers.

# Local Examples

- Castles in Scotland
- Notable people from Dundee.
- Items in the collections of Dundee Art Gallery



# SPARQL Demo: Warm-Up

```
#title: Castles in Scotland
```

```
SELECT ?castle ?castleLabel ?coord ?image
```

```
WHERE {
```

```
  ?castle wdt:P31 wd:Q23413; # instance of castle
```

```
  wdt:P131* wd:Q22; # located in Scotland
```

```
  wdt:P625 ?coord. #coordinate location
```

```
OPTIONAL {?castle wdt:P18 ?image } .# image
```

```
SERVICE wikibase:label { bd:serviceParam wikibase:language "en". }
```

**<https://w.wiki/F6ew>**

# SPARQL Demo: Notable Dundonians

```
#title: Notable Dundonians
SELECT ?person ?personLabel ?dob ?dod ?image
WHERE {
  ?person wdt:P31 wd:Q5; # humans
  wdt:P19 wd:Q123709; # born in Dundee
  wdt:P569 ?dob;
  wdt:P570 ?dod.

  OPTIONAL { ?person wdt:P18 ?image }

  SERVICE wikibase:label { bd:serviceParam wikibase:language "en". }
}
#ORDER BY DESC (?dob)|
```

**<https://w.wiki/F8fZ>**

# SPARQL Demo:

## Works of Art in Dundee Galleries

```
#title: Artworks in the Dundee Galleries Collection
SELECT ?work ?workLabel ?artistLabel ?image
WHERE {
  #?work wdt:P195 wd:Q109893034. # collection: AAGM collection
  ?work wdt:P195 wd:Q119979525. # collection: Dundee collection
  OPTIONAL { ?work wdt:P170 ?artist }
  OPTIONAL { ?work wdt:P18 ?image }
  SERVICE wikibase:label { bd:serviceParam wikibase:language "en". }
}
```

<https://w.wiki/F6f5>



# Wrap-Up

- Wikidata is a cornerstone of the open data ecosystem
- Connects, aggregates, and publishes knowledge
- Everyone can contribute
- Explore
  - <https://wikidata.org>
  - <https://query.wikidata.org>

# Thank You

- Questions?
- These Slides:  
<http://bit.ly/4fSgk1g>



# Getting involved

- Aberdeen Wiki Meetup:  
<https://meta.wikimedia.org/wiki/Meetup/Aberdeen>
- Sign up for the Code The City newsletter:  
<http://eepurl.com/dNW2RA>
- Email: [ian@codethecity.org](mailto:ian@codethecity.org)
- Mastodon: @watty62@mstdn.social
- Bluesky: @watty62.bsky.social

# Useful resources

- [Introduction to Graphs](#)
  - [NEW – Interactive WIKIDATA Query Service Tutorial](#)
  - [16-min SPARQL tutorial](#)
  - [Building SPARQL Queries](#) (41 min tutorial)
  - [Lucas Werkmeister – Querying Wikidata with SPARQL](#)
- [Timeline of Aberdeen Uni Graduates](#)
  - [Aberdeen Plaques – Part 1](#)
  - [Aberdeen Plaques – Part 2](#)
  - [Aberdeen Provosts](#)
  - [Mapping Memorials to Women in Aberdeen](#)
  - [Shipwrecks](#)