

# New Frontier: Using Wikidata on Commons

By Jarek Tuszynski

(user:jarekt)





























October 2016

# Infobox templates on Commons

- Purpose:
  - **Preserve metadata** - Many files come from institutions which store rich metadata. When uploading files to Commons we want to preserve it all.
  - **Internationalization** (I18n) - Commons serves Wikimedia projects using many languages. Our goal is to show pages in the language of the viewer.
  - **Machine readability**
- Metadata is stored in variety of templates, for example
  - `{{Artwork}}` – for artworks, artifacts and other objects
  - `{{Creator}}` – for authors
  - `{{Institution}}` – for galleries, museums and other institutions
  - We also have `{{Book}}`, `{{Authority control}}`, `{{Location}}` (for coordinates) and many more

# Preserving metadata during upload

## Summary [edit]

<b>Artist</b>	Barthel Bruyn the Elder (1493–1555)  	
<b>Alternative names</b>	Bartholomäus Bruyn the Elder, Bartholomäus Bruyn (I), Bartholomaeus de Bruijn, Bartold Bruin, Bartel Bruns, Bartholomäus Bruyen, Bartholomaeus de Bruyn, Bartel Bruen	
<b>Description</b>	German painter	
<b>Date of birth/death</b>	1493	22 April 1555
<b>Location of birth/death</b>	Wesel	Cologne
<b>Work location</b>	Cologne	
<b>Authority control</b>	 · VIAF: 3264584  · ISNI: 0000 0000 6674 576X  · ULAN: 500028449  · LCCN: n86033709  · WGA: BRUYN, Barthel  · WorldCat 	
<b>Title</b>	English: Portrait of a Woman 	
<b>Date</b>	1539	
<b>Medium</b>	oil on panel	
<b>Dimensions</b>	Height: 35 cm (13.8 in). Width: 26 cm (10.2 in).	
<b>Current location</b>	Thyssen-Bornemisza Museum   (Inventory) 	
		<b>Native name</b> Museo Thyssen-Bornemisza
		<b>Location</b> Madrid, (Spain)
		<b>Coordinates</b> 40° 24′ 58″ N, 3° 41′ 42″ W  
		<b>Established</b> 1992
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<b>Accession number</b>	68 (1930.12) <sup>Accession number retrieved from Wikidata</sup>	
<b>Source/Photographer</b>	Web Gallery of Art    Info about artwork 	



## BRUYN, Barthel

(b. 1493, Cologne, d. 1555, Cologne)

### BIOGRAPHY



Portrait of a Woman

1539  
Oil on panel, 35 x 26 cm  
Museo Thyssen-Bornemisza, I

[Send this picture as postcard](#)

[Friendly format for printing and bookmarking](#)

[Order oil painting](#)

This painting is possibly the companion-piece of a portrait of similar format, size and composition, representing a man. The two portraits depict a couple identified as members of the Weinsberg family from the coat-of-arms which appears on one of the man's rings.

# Internationalization

Summary [\[ edit \]](#)

- The same page as seen by English and German speakers
- Language determined from user preferences or from Wikipedia they come from

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# I18n templates

{{Artwork}}

{{Creator}}

{{ISOdate}}

{{City}}

Summary [edit]

Artist

Barthel Bruyn the Elder (1493–1555)

Alternative names

Bartholomäus Bruyn the Elder, Bartholomäus Bruyn (I), Bartholomaeus de Bruijn, Bartold Bruin, Bartel Bruns, Bartholomäus Bruyen, Bartholomaeus de Bruyn, Bartel Bruen

Description

German painter

Date of birth/death

1493

22 April 1555

Location of birth/death


Wesel

Cologne

Work location

Cologne

Authority control

 · VIAF: 3264584 · ISNI: 0000 0000 6674 576X · ULAN: 500028449 · LCCN: n86033709 · WGA: BRUYN, Barthel · WorldCat

Title

English: Portrait of a Woman

Date

1539

Medium

oil on panel

Dimensions

Height: 35 cm (13.8 in). Width: 26 cm (10.2 in).

Current location

Thyssen-Bornemisza Museum

(Inventory)



Native name

Museo Thyssen-Bornemisza

Location

Madrid, (Spain)

Coordinates

40° 24′ 58″ N, 3° 41′ 42″ W


Established

1992

Website

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Authority control

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Accession number

68 (1930.12) Accession number retrieved from Wikidata

Source/Photographer

Web Gallery of Art:  Image  Info about artwork

{{NationAndOccupation}}

{{Authority Control}}

{{Technique}}

{{Institution}}

{{location}}

Translated using  
{{LangSwitch}} template

Translated on  
[Translatewiki.net](https://translatewiki.net)

# Trouble brewing

- The system become very esoteric, with some templates becoming too complicated to maintain.
- Many of i18n templates are used on a lot of pages, like `{{Dir}}` used on 41M out of 47M pages.
- We were often tripping the *expansion limit* “safety fuse”
- We were rescued by two 2013 developments:
  - Introduction of Lua programing language
  - Introduction of Wikidata

# Timeline

- **January 2013** - Wikidata phase I went live on Wikipedia projects allowing storage of interwiki links in a single place as Wikidata "sitelinks".
- **March 2013** - Lua is introduced on all Wikimedia projects, including Commons. Many templates were rewritten in Lua.
- **September 2013** - Wikidata phase I went live on Commons, with little notice since most interwiki links on Commons were from Commons categories to Wikipedia articles and back then there was a semi-consensus that sitelinks should not be between pages in different namespaces
- **September 2015** - [Arbitrary access](#) to Wikidata properties was enabled on English Wikipedia allowing calls like `{{#property:P36|from=Q183}}`
- **April 2016** - [Arbitrary access](#) was enabled on Commons, which finally made Wikidata useful to Commons.

# New Frontier


- Wikidata can simplify two of the purposes of infoboxes:
  - **Preserve metadata** – Much of metadata about people, places, institutions, books, artworks, etc. can be stored on Wikidata, which serves as central repository shared by all the projects.
    - Benefit for Wikidata – there is a wealth of metadata stored on Commons
    - Benefit to Commons - more users will bring better quality and simplify maintenance
  - **Internationalization** – Wikidata can be also used by codes translating terms that have associated Wikidata q-codes
- Since April much work was done on rewriting some of the infobox templates using Lua and accessing Wikidata.



# Stages of moving metadata to Wikidata

1. Link Commons pages with Wikidata
  - Store Commons page name in Wikidata properties
  - Store Wikidata *q-code* on Commons page
2. Rewrite Infobox in Lua to allow pulling metadata from Wikidata
3. Reconcile Commons and Wikidata metadata, through automatic comparison:
  - The same → remove from Commons, as redundant
  - Missing from Wikidata → move to Wikidata
  - Present in both but different → reconcile by human

Authority control

 · VIAF: [39447335](#) · ISNI: [0000 0001 0889 7770](#) · Botanist: [P. Karsten](#)/[P.Karst.](#) ([Q931826](#) P428 "P. Karsten" S143 Q585) · GND: [127704353](#) · SUDOC: [064959767](#) · BNF: [12322463v](#)

# Rewriting Templates in Lua

- Commons templates often rely on a lot of other templates, which again rely on even more templates
- One challenge of moving to Lua is to minimize number of calls to other templates
- Luckily many of the most basic templates, are already translated



# Progress

Template	Lua	Wikidata link	Reconcile	Comment
{{City}}	100%	100%	100%	
{{Authority control}}	100%	138k (98%)	100%	
{{Creator}}	80%	22k (90%)	0%	
{{Institution}}	0%	4k (97%)	0%	
{{Artwork}}	5%	60k (6%)	0%	<i>Sum of all Paintings</i> project added metadata for 148k paintings and 11k sculptures
{{Book}}	0%	0%	0%	
{{Object Location}}	100%	0%	0%	

# {{City}} template

- {{City}} template serves as a giant lookup table matching 1890 names of cities and countries, like “Москва” or “Moscow”, to 1315 location templates, like {{Moscow}}.
- Location templates return name of location in user’s language with a link to user’s native Wikipedia. All names and links for hundreds of languages were stored in each template
- We matched all location templates to Wikidata and rewrote them so they pull all the information required directly from Wikidata.
- {{City}} still works as a lookup table but also calls Wikidata directly

# {{Authority control}}

- Used 140k times on some Category pages and most Creator and Institution pages
- We matched most instances to Wikidata and modified each template by adding “Wikidata” parameter
- Pages using both local and Wikidata parameters use color to identify the source
- We reconciled and removed local parameters from 138k pages. 3k remains unmatched.








Code which can be used with [quick statements tool](#) to add Commons value to Wikidata









# {{Creator}}

- {{Creator}} template allows creation of a *creator template* with basic information about people. We have almost 25k of them.
- We matched 90% of them to Wikidata and wrote Lua code that closely mimics current template:

Local parameters:

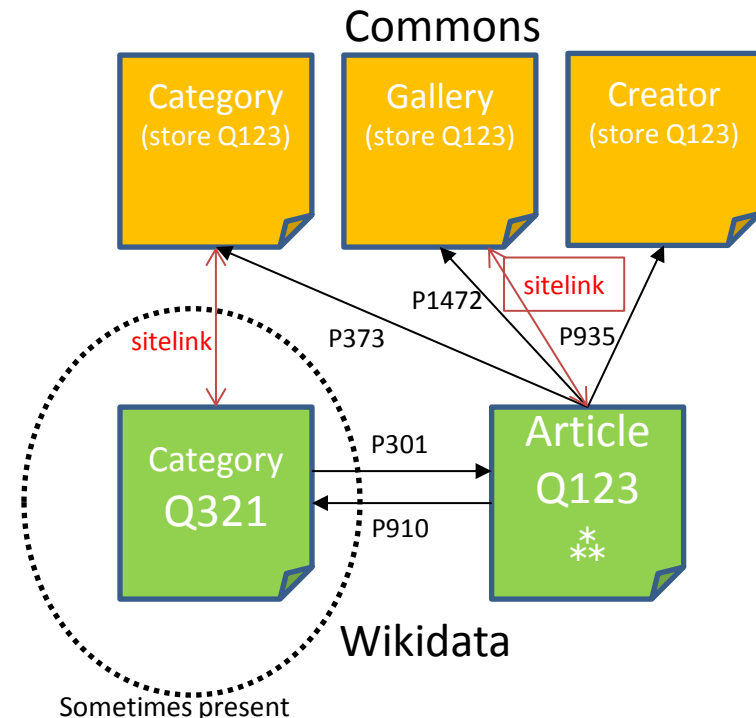
<b>Paul Cézanne (1839–1906)</b>   																
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# Commons / Wikidata Linking (current)

- Sitelinks work for 1-to-1 linking with Wikipedia
- Commons Can have several pages that need to access Wikidata properties: category, creator, institution or gallery pages, but only one sitelink is allowed.
- Current solution:
  - Store Commons page names in Wikidata properties
  - Store Wikidata *q-code* on Commons page
  - Not use sitelinks which can be pointing to any page
- Issues:
  - Two places to store the same information means a lot of maintenance to keep them in synch
  - Commons moving, redirecting or deleting pages does not update Wikidata
  - Wikidata merges, even deletes, pages without updating Commons
  - Wikidata maintenance tools do not work with linking through properties



# Commons / Wikidata Linking (alternatives)

- Create Wikidata page for every Category, Creator or Institution page on Wikidata. Connect to Commons through sitelinks. Link them to each other through properties.
  - Issue 1: that is a lot of new pages on Wikidata and interconnections to maintain
  - Issue 2: Where to keep properties? Usually only article pages on Wikidata have properties.
- Allow Commons pages to detect when they are used as a property of some Wikidata page
  - Issue: not the way Wikidata is designed to operate. The properties would become a little like sitelinks

