

# CIDOC 2020

## Getty Vocabulary Program

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Getty Research Institute

## **Getty Vocabulary Program Update CIDOC 2020**

- **Current and Future Contributions / Priorities**
- **Alma Refine for catalogers**
- **OpenRefine reconciliation service advanced techniques**

# Pt 1

## Current and Future Contributions / Priorities

## Getty Vocabulary Program Update CIDOC 2020

- **Current and Future Contributions / Priorities**
  - **Backlogged data loads**
  - **Outside consultant (Ontotext)**
  - **Systematic workflow for regular contributions**
  - **GVP overall priorities for the future**

**BWR**

**Built Works Registry**

Global IDs for Architecture  
and the Built Environment



Cultural Objects  
Name Authority  
(CONA)®



**BWR3781470**

BWR ID

**Wilbert Snow School Addition**

BWR Name

**Jeter Cook & Jepson Architects, United States, firm | Ashley, Warren Henry (1909-1968), American, architect**

Creator

**1994-1999**

Date

**Middletown, Connecticut, United States**

Location

**41.55**

Latitude

**-72.65**

Longitude

**schools**

Work Type

**BWR Data points:**

- Unique ID
- Name/Title
- Creator Name(s)
- Date of work
- Location of work
- Lat/Long
- Work Type



Cultural Objects  
Name Authority  
(CONA)®



**BWR3781470**

BWR ID

**Wilbert Snow School Addition**

BWR Name

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Creator

**1994-1999**

Date

**Middletown, Connecticut, United States**

Location

**41.55**

Latitude

**-72.65**

Longitude

**schools**

Work Type

10 matching rows (4999 total)

Extensions

Show as: rows records

Show: 5 10 25 50 rows

« first < previous 1 - 1

| D[34820] | BWR Name[34820]                    | BWR Variant Name | Larger Entity or | Creator[34824] | ULAN Creator[34824]   | ULAN Creator[34824] | ULAN Creator[34824] | ULAN Creator[34824] | ULAN |
|----------|------------------------------------|------------------|------------------|----------------|---|---------------------|---------------------|---------------------|------|
| 48       | Whalen Junior High School          |                  |                  | Ashley, Warren | <a href="#">Ashley, Warren Henry</a><br><small>Choose new match</small> |                     |                     |                     |      |
| 54       | East Granby Middle and High School |                  |                  | Ashley, Warren | <a href="#">Ashley, Warren Henry</a><br><small>Choose new match</small> |                     |                     |                     |      |
| 60       | Seymour Elementary School          |                  |                  | Ashley, Warren | <a href="#">Ashley, Warren Henry</a><br><small>Choose new match</small> |                     |                     |                     |      |
| 80       | Wilbert Snow Elementary School     |                  |                  | Ashley, Warren | <a href="#">Ashley, Warren Henry</a><br><small>Choose new match</small> |                     |                     |                     |      |
| 72       | Center Episcopal Church            |                  |                  | Ashley, Warren | <a href="#">Ashley, Warren Henry</a><br><small>Choose new match</small> |                     |                     |                     |      |
| 94       | Saybrook High School               |                  |                  | Ashley, Warren | <a href="#">Ashley, Warren Henry</a><br><small>Choose new match</small> |                     |                     |                     |      |
| 99       | Waterford High School              |                  |                  | Ashley, Warren | <a href="#">Ashley, Warren Henry</a><br><small>Choose new match</small> |                     |                     |                     |      |
| 17       | Fletcher Judson Elementary School  |                  |                  | Ashley, Warren | <a href="#">Ashley, Warren Henry</a><br><small>Choose new match</small> |                     |                     |                     |      |
| 29       | Warren Ashley Office               |                  |                  | Ashley, Warren | <a href="#">Ashley, Warren Henry</a><br><small>Choose new match</small> |                     |                     |                     |      |



**Ashley, Warren Henry**  
(American architect, 1909-1968)



(4999 total)

Extensions: [View data](#)

Show: [5](#) [10](#) [25](#) [50](#) rows

« first < previous **1 - 1** next > last »


| Subsite and/or S | <input type="checkbox"/> City[34832] | <input type="checkbox"/> TGN City[34832] | <input type="checkbox"/> State or Provinc | <input type="checkbox"/> Country[34834] | <input type="checkbox"/> Postal Code[348 | <input type="checkbox"/> Notes[34836] | <input type="checkbox"/> TGN[34837] | <input type="checkbox"/> Latitude[34838] |
|------------------|--------------------------------------|--|---|---|--|---------------------------------------|-------------------------------------|--|
|                  | Middletown                           | Middletown                               | Connecticut                               | United States                           |  |                                       | 7007159                             | 41.55                                    |



**1 matching rows** (4999 total)

Show as: **rows** records    Show: 5 10 25 50 rows


| site and/or S | City[34832] | TGN City[34832] | State or Provinc | Country[34834] | Posta |
|---------------|-------------|-----------------|------------------|----------------|-------|
|               | Middletown  |                 | Connecticut      | United States  |       |

- Facet ▶
- Text filter
- Edit cells ▶
- Edit column ▶
- Transpose ▶
- Sort...
- View ▶
- Reconcile ▶
  - Start reconciling... 
  - Facets
  - Actions ▶
    - Reconcile text in this column w
  - Copy reconciliation data...
  - Use values as identifiers

## Reconcile column "TGN City[34832]"

» Access [Service API](#)

Reconcile each cell to an entity of one of these types:


- ULAN search  
/ulan
- TGN search ←   
/tgn
- AAT search  
/aat
- Search all Vocabs  
/all

Also use relevant details from other columns:

|                                       |                                     |                      |
|---------------------------------------|-------------------------------------|----------------------|
| Latest Date[34826]                    | <input type="checkbox"/>            | <input type="text"/> |
| Date Completed[34827]                 | <input type="checkbox"/>            | <input type="text"/> |
| Street Address or Intersection[34828] | <input type="checkbox"/>            | <input type="text"/> |
| Neighborhood[34829]                   | <input type="checkbox"/>            | <input type="text"/> |
| Borough[34830]                        | <input type="checkbox"/>            | <input type="text"/> |
| Subsite and/or Site[34831]            | <input type="checkbox"/>            | <input type="text"/> |
| City[34832]                           | <input type="checkbox"/>            | <input type="text"/> |
| State or Province[34833]              | <input checked="" type="checkbox"/> | broaderExt           |
| Country[34834]                        | <input checked="" type="checkbox"/> | broaderExt           |
| Postal Code[34835]                    | <input type="checkbox"/>            | <input type="text"/> |
| Notes[34836]                          | <input type="checkbox"/>            | <input type="text"/> |
| TGN[34837]                            | <input type="checkbox"/>            | <input type="text"/> |

Reconcile against type:

Reconcile against no particular type

Auto-match candidates with high confidence ← 

Maximum number of candidates to return


**1 matching rows** (4999 total)

Show as: **rows** records    Show: 5 10 25 50 rows

| Site and/or S | City[34832] | TGN City[34832]   | State or Provinc                 | Country[34834] | Postal Code[348 | Note |
|---------------|-------------|---|----------------------------------|----------------|-----------------|------|
|               | Middletown  | Middletown<br><input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <a href="#">Middletown</a> (37)<br><input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <a href="#">Portland</a> (21)<br><input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Create new item | <a href="#">edit</a> Connecticut | United States  |                 |      |

Match this Cell    Match All Identical Cells    Cancel

**Middletown**  
 (inhabited places)  
**Geographic Hierarchy:**  
 — World  
 — ...  
 — Connecticut  
 — Middlesex  
 — **Middletown (inhabited places)**




### **ULAN projects:**

- Belvedere Museum, Vienna – 22,000 artist name records
- Tobunken, Tokyo – 1,750 artist name records (Japanese)
- RKD – entire artist name file, with associative metadata and relationships
- MoMA – additional 600 records related to LGBTQ community

### **AAT:**

- Chinese, Dutch translations continue; CHIN French terms
- Israel Museum Jerusalem – 2,000 Hebrew terms, objects and cultures
- Portuguese terms: USP and graduate intern Camila da Silva

 **views (visual works)** (<visual works by form of image>, <visual works by form>, ... Visual and Verbal Communication (hierarchy name))

**Note:** Depictions of places or things seen from a distance, with a range of sight distinct from other information forms such as diagrams, working drawings, or verbal descriptions. Generally reserved for two-dimensional media such as prints, drawings, paintings, photographs, or bas-reliefs.

**Terms:**

**views (visual works)** ([preferred](#), [C,U,LC,English-P,D,U,PN](#))

**view (visual work)** ([C,U,English,AD,U,SN](#))

風景畫 (視覺作品) ([C,U,Chinese \(traditional\)-P,D,U,U](#))

fēng jǐng huà ([C,U,Chinese \(transliterated Hanyu Pinyin\)-P,UF,U,U](#))

feng jing hua ([C,U,Chinese \(transliterated Pinyin without tones\)-P,UF,U,U](#))

feng ching hua ([C,U,Chinese \(transliterated Wade-Giles\)-P,UF,U,U](#))

gezichten (beeldmateriaal) ([C,U,Dutch-P,D,U,U](#))

gezicht ([C,U,Dutch,AD,U,U](#))

vistas ([C,U,Spanish-P,D,U,PN](#))

(obras visuais) ([Portuguese-P,D,U,PN](#))

vista ([C,U,Spanish,AD,U,SN](#))

(obra visual) ([Portuguese,AD,U,SN](#))

**Additional Notes:**

**Chinese (traditional)** ..... 描繪各處地方風情或各種物品的圖像，一般是以基本平面媒材繪製而成，例如：版畫、素描、油畫、照片，或者是淺浮雕 (bas-reliefs) 等。此詞彙一般是用以指稱描繪特定視野範圍或景象的圖像，不同於圖表及施工圖等其他以呈現資訊為主的圖像或是文字描述。

**Dutch** ..... Verwijst naar voorstellingen van plaatsen of dingen, doorgaans op vrijwel tweedimensionale media zoals prenten, tekeningen, schilderijen, foto's of bas-reliëfs. De term wordt meestal gebruikt om een voorstelling gemaakt vanuit een bepaald gezichtsveld te onderscheiden van andere informatievormen zoals diagrammen, werktekeningen of verbale beschrijvingen.

**Portuguese** ..... Representações de lugares ou coisas vistas à distância e distintas de outras formas de informação tais como diagramas, esboços ou descrições verbais.

**Spanish** ..... Úsease para descripciones, incluyendo fotografías, de lugares o cosas, especialmente para distinguirlas de otra información tales como diagramas, obras dibujadas o descripciones verbales.

## **Future Priorities and Scope for Contributions**

- Contributions based on our mission statement and steering committee
- Criteria for contributions will be published
- More assistance for contributors
  - OpenRefine
  - Workable spreadsheets
  - New contribution webform

# Pt 2

## Alma Refine

## Alma Refine

*Refine Alma BIB records using OpenRefine services*

This app can be used to refine bibliographic records with services that adhere to the OpenRefine standard. References to the Getty vocabularies, WikiData, and GeoNames are included with the app.

### More information



By [Josh Weisman](#)

View the app on: 

Version: v0.2.0 | [Help](#) | Last updated on 20 Nov 2020

This application allows: modals

This application uses external websites:

- <https://services.getty.edu>
- <https://wdreconcile.toolforge.org>
- <https://api.exldevnetwork.net>
- <https://lobid.org>
- <https://conciliator.herokuapp.com>





- Alma Sandbox
- Acquisitions
- Resources
- Fulfillment
- Admin
- Analytics

- Facets <<
- Material Type** ▾  
Book (87)  
Mixed material (1)
- Resource Type** ▾  
Book - Electronic (1)  
Book - Physical (86)  
Undefined (1)
- Language** ▾  
English (75)  
French (13)  
Italian (1)  
Japanese (1)
- Publication Year** ▾  
1879 - 1973 (22)  
1974 - 1991 (22)  
1992 - 2006 (21)  
2007 - 2018 (23)

< All Titles (1 - 50 of 88) | Mary Cassatt Save Query

Institution **Community**

Sort by: Rank Secondary Sort by: Rank Expand: Physical

1 **Meari Kasatto ten = Mary Cassatt retrospective / henshū Yokohama Bijutsukan, Kyōto Kokuritsu Kindai Bijutsukan, NHK, NHK Puromōshon.** Edit Record Holdings ⋮

**Book (Book - Physical) text; unmediated; volume** By Cassatt, Mary, (Tōkyō) : NHK : 2016.)

Language: Japanese Orders: 1  
Record number: (OCoLC)ocn954491862 MMS ID: 9933859107101551

メアリー・カサット展 = Mary Cassatt retrospective / 編集横浜美術館, 京都国立近代美術館, NHK, NHKプロモーション.

**Subject:** Cassatt, Mary / 1844-1926 Cassatt, Mary / 1844-1926 / Exhibitions Cassatt, Mary / 1844-1926 / Criticism and interpretation and others

**Creation Date:** 11/20/2018 18:51:59 PST  
**Modification Date:** 03/15/2020 03:27:56 PDT

▼ ● Physical (1) Electronic Digital Other details

1 Holdings | 1 of 1 items are available

| Library | Location | Call Number       | Accession Number | Item Availability  | Related Record |
|---------|----------|-------------------|------------------|--------------------|----------------|
| GC      | M        | N6537.C35 A4 2016 | -                | ● 1 of 1 Available | -              |

[Holdings](#) | [Items](#)

2 **Innovative impressions : prints by Cassatt, Degas, and Pissarro / Sarah Lees, Richard R. Brettell.** Edit Record Holdings ⋮

**Book (Book - Physical) still image; unmediated; volume** By Lees, Sarah, (Tulsa, Oklahoma : Philbrook Museum of Art, ©2018)

Language: English MMS ID: 9933870011001551  
ISBN: 9783777429786 and others  
Record number: (OCoLC)1019846181

**Subject:** Cassatt, Mary,-1844-1926-Exhibitions. Degas, Edgar,-1834-1917-Exhibitions. Pissarro, Camille,-1830-1903-Exhibitions. and others

**Creation Date:** 01/16/2019 11:38:57 PST  
**Modification Date:** 05/26/2020 01:42:47 PDT

● Physical (1) Electronic Digital Other details

1 Holdings | 1 of 1 items are available

| Library | Location | Call Number  | Item Availability  | Related Record |
|---------|----------|--------------|--------------------|----------------|
| GC      | 7G       | 3387-001-100 | ● 1 of 1 Available | -              |

< Back to App List

**Alma Refine** ⋮

To begin refining records, navigate to a list of Bibliographic records or select a set.

Set  Displayed Records  Select Records

Refine the 50 records on this page

Getty Vocabularies Begin Refining



Back to App List

++ [Pin Icon] X



Alma Refine

|                  |  |  |                          |
|------------------|--|--|--------------------------|
| 9924975390001551 | Rare Japanese prints.  | 655\$: Auction catalogs.                           | auction catalogs ▾       |
| 9925351190001551 | Edgar Degas letters,   | 100\$: Degas, Edgar,                               |                          |
| 9925691980001551 | Painting in a man's world : four stories about Berthe Morisot, Mary Cassatt, Eva Gonzalès, Marie Bracquemond / | 100\$: Broeckhoven, Diane,                         |                          |
| 9925721610001551 | Women impressionists /   |  |                          |
| 9925884180001551 | Cassatt : a retrospective /  | 100\$: Cassatt, Mary,                              |                          |
| 9925897390001551 | Painted faces : Mary Cassatt, Alice Neel, Karen Kilimnik /   |  |                          |
| 9926326850001551 | Eve's daughter/Modern woman : a mural by Mary Cassatt /  | 100\$: Webster, Sally.                             | Webster, Sally ▾         |
| 9926356460001551 | Leaders of American impressionism: Mary Cassatt, Childe Hassam, John H. Twatchman [and] J. Alden Weir.         | 110\$: Brooklyn Museum.                            | Brooklyn Museum of Art ▾ |
| 9927472790001551 | Mary Cassett's [sic] Children Playing With A Dog.  | 110\$: Christie, Manson & Woods International Inc. | Select a refinement ▾    |
|                  |  | 655\$: Auction catalogs.                           | auction catalogs ▾       |

**Degas, Edgar**  
 (French painter and sculptor, 1834-1917)  
 Important Impressionist artist; unlike other Impressionists, he emphasized composition and drawing, and he usually did not paint outdoors. Degas was primarily concerned with depicting movement, from horses to women in various activities, dressing, bathing, and as cabaret performers.

- None
- Degas, Edgar
- Degas, Andre
- Jené, Edgar
- Baran, Edgar
- Hecht, Edgar



|            |  |
|------------|--|
| <b>050</b> | _4  a N6537.C35  b A4 1996   |
| <b>090</b> | __  a N6537.C35  b A4 1996   |
| <b>100</b> | 1_  a Cassatt, Mary  d 1844-1926.  0 <a href="http://vocab.getty.edu/ulan/500012368">http://vocab.getty.edu/ulan/500012368</a> |
| <b>245</b> | 10  a Cassatt :  b a retrospective /  c edited by Nancy Mowll Mathews.   |
| <b>260</b> | __  a [S.I.] :  b H.L. Levin Associates,  c c1996.   |
| <b>300</b> | __  a 357 p. :  b ill. (some col.) ;  c 34 cm.   |
| <b>504</b> | __  a Includes bibliographical references (p. 11-12) and index.  |



# Pt 3

## Advanced OpenRefine Techniques

## Getty Vocabulary Program OpenRefine service

**Open source:** <http://openrefine.org>

Runs in a browser; available in multiple languages.

**Data reconciliation / alignment / cleanup**

For large and small-scale alignment with Getty Vocabulary data.

**Uses GREL language (General Refine Expression Language)**

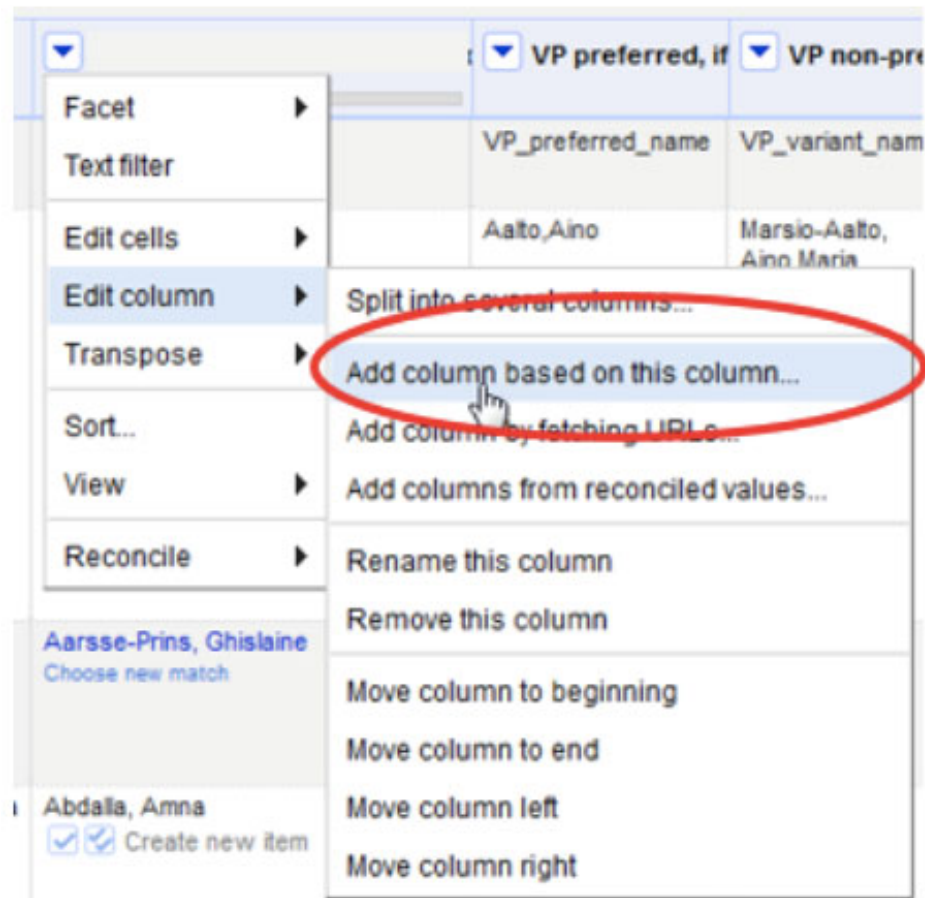
<https://github.com/OpenRefine/OpenRefine/wiki/GREL-Functions>

**For specific information and tutorial:**

<http://www.getty.edu/research/tools/vocabularies/obtain/openrefine.html>

# Getting Vocabulary IDs for Matches

## Add a new column based on the “matched” column:



## Name your new column, and apply a GREL expression:

**Add column based on column pref\_name**

New column name

On error  set to blank  store error  copy value from original column

Expression  Language  No syntax error.

**Preview** History Starred Help

| row | value                            | cell.recon.match.id |
|-----|----------------------------------|---------------------|
| 1.  | (Kolbrun Björgolfsdottir), Kogga | null                |
| 2.  | (Wang Lian), Jinglian            | null                |
| 3.  | Aalto, Aino                      | ulan/500024110      |
| 4.  | Aarsse-Prins, Ghislaine          | ulan/500164537      |
| 5.  | Abad, Pacita                     | null                |
| 6.  | Abakanowicz, Magdalena           | ulan/500084577      |



# Syncing Getty Vocabulary IDs Via XML Web Services using OpenRefine

## Add a new column by “fetching URLs”

| DISPLAYNAME  | ULAN ID   | Pref Term | FIRSTNAME | LASTNAME | BEGINDATE | EN   |
|--|-----------|-----------|-----------|----------|-----------|------|
| <b>Maxwell Hamilton</b><br><input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Maxwell, Hamilton (24)<br><input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Hamilton, Maxwell, Inc. (23)<br><input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Fry, Edwin Maxwell (14)<br><input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Bates, Maxwell (14)<br><input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Maxwell, John (14)<br><input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Create new item     |           |           |           |          |           |      |
| <b>Charles Aubry</b><br><input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Aubry, Charles (34)<br><input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Aubry, Charles (33)<br><input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Aubry, Emile (18)<br><input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Aubry, Louis (18)<br><input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Aubry, René Marcel (17)<br><input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Create new item                       |           |           |           |          | 1811      |      |
| <b>Fédèle Azari</b><br><input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Azari, Fedele (19)<br><input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Āzarī Isfarāyīnī, Ḥamzah ibn 'Alī Malik (5)<br><input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Create new item  | 500103519 | Azari,    |           |          |           | 1895 |
| <b>František Vobecký</b><br><input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Vobecký, František (43)<br><input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Schmoranz, František (17)<br><input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Fišer, František (17)<br><input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Kadlec, František (17)<br><input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Kysela, František (17)<br><input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Create new item | 500028103 | Vobec     |           |          |           | 1902 |

- Facet
- Text filter
- Edit cells
- Edit column
  - Split into several columns...
  - Add column based on this column...
  - Add column by fetching URLs...**
  - Add columns from reconciled values...
- Transpose
- Sort...
- View
  - Rename this column
  - Remove this column
  - Move column to beginning
  - Move column to end
  - Move column left
  - Move column right
- Reconcile

## Define column name and input GREL expression:

<http://vocabsservices.getty.edu/ULANService.aspx/ULANGetSyncSubjectID?subjectID='+value>


**Add column by fetching URLs based on column ULAN ID**

New column name  Throttle delay  milliseconds

On error  set to blank  store error  Cache responses

HTTP headers to be used when fetching URLs: [Show](#)

Formulate the URLs to fetch:

Expression  Language  No sync 

**Preview** History Starred Help

| row | value     | 'http://vocabsservices.getty.e ...  |
|-----|-----------|---|
| 1.  | 500299270 | http://vocabsservices.getty.edu/ULANService.aspx/ULANGetSyncSubjectID?subjectID=500299270 |
| 2.  | 500029715 | http://vocabsservices.getty.edu/ULANService.aspx/ULANGetSyncSubjectID?subjectID=500029715 |
| 3.  | 500103519 | http://vocabsservices.getty.edu/ULANService.aspx/ULANGetSyncSubjectID?subjectID=500103519 |
| 4.  | 500028103 | http://vocabsservices.getty.edu/ULANService.aspx/ULANGetSyncSubjectID?subjectID=500028103 |

OK Cancel

# Resulting XML



| IC | DISPLAYNAME   | ULAN ID   | Sync ID   |
|----|---|-----------|---|
|    | <b>Maxwell Hamilton</b> <a href="#">edit</a><br><input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <a href="#">Maxwell, Hamilton</a> (24)<br><input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <a href="#">Hamilton, Maxwell, Inc.</a> (23)<br><input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <a href="#">Fry, Edwin Maxwell</a> (14)<br><input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <a href="#">Bates, Maxwell</a> (14)<br><input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <a href="#">Maxwell, John</a> (14)<br><input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <a href="#">Create new item</a> | 500299270 | <pre>&lt;?xml version="1.0" encoding="utf-8"?&gt; &lt;Vocabulary xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:noNamespaceSchemaLocation="http://vocabsservices.getty.edu/Schemas/ULAN/ULANGetSyncSubjectId.xsd"&gt;   &lt;Current_Subject_ID&gt;500299270&lt;/Current_Subject_ID&gt; &lt;/Vocabulary&gt;</pre> |
|    | <b>Charles Aubry</b><br><input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <a href="#">Aubry, Charles</a> (34)<br><input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <a href="#">Aubry, Charles</a> (33)<br><input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <a href="#">Aubry, Emile</a> (18)<br><input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <a href="#">Aubry, Louis</a> (18)<br><input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <a href="#">Aubry, René Marcel</a> (17)<br><input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <a href="#">Create new item</a>  | 500029715 | <pre>&lt;?xml version="1.0" encoding="utf-8"?&gt; &lt;Vocabulary xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:noNamespaceSchemaLocation="http://vocabsservices.getty.edu/Schemas/ULAN/ULANGetSyncSubjectId.xsd"&gt;   &lt;Current_Subject_ID&gt;500029715&lt;/Current_Subject_ID&gt; &lt;/Vocabulary&gt;</pre> |
|    | <b>Fédèle Azari</b><br><input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <a href="#">Azari, Fedele</a> (19)<br><input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <a href="#">Āzarī Isfarāyīnī, Hamzah ibn 'Alī Malik</a> (5)<br><input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <a href="#">Create new item</a>   | 500103519 | <pre>&lt;?xml version="1.0" encoding="utf-8"?&gt; &lt;Vocabulary xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:noNamespaceSchemaLocation="http://vocabsservices.getty.edu/Schemas/ULAN/ULANGetSyncSubjectId.xsd"&gt;   &lt;Current_Subject_ID&gt;500103519&lt;/Current_Subject_ID&gt; &lt;/Vocabulary&gt;</pre> |
|    | <b>František Vobecký</b>  | 500028103 | <pre>&lt;?xml version="1.0" encoding="utf-8"?&gt;</pre>   |

## Parse XML using Transform

| DISPLAYNAME   | ULAN ID   | Sync ID   |
|---|-----------|---|
| Maxwell Hamilton<br><input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Maxwell, Hamilton (24)<br><input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Hamilton, Maxwell, Inc. (23)<br><input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Fry, Edwin Maxwell (14)<br><input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Bates, Maxwell (14)<br><input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Maxwell, John (14)<br><input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Create new item | 500299270 | Facet<br>Text filter<br>Edit cells<br>Edit column<br>Transpose<br>Sort...<br>View<br>Reconcile  |
| Charles Aubry<br><input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Aubry, Charles (34)<br><input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Aubry, Charles (33)<br><input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Aubry, Emile (18)<br><input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Aubry, Louis (18)<br><input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Aubry, René Marcel (17)<br><input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Create new item                   | 500029715 | Transform...<br>Common transforms<br>Fill down<br>Blank down<br>Split multi-valued cells...<br>Join multi-valued cells...<br>Cluster and edit...<br>Replace   |
| Fédèle Azari<br><input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Azari, Fedele (19)<br><input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Āzarī Isfarāyīnī, Hamzah ibn 'Alī Malīk (5)<br><input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Create new item  | 500103519 | <?xml version="1.0" encoding="utf-8"?><br><Vocabulary xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:noNamespaceSchemaLocation="http://vocabsservices.getty.edu/Schemas/ULAN/ULANGetSyncSubjectId.xsd"><br><Current_Subject_ID>500103519</Current_Subject_ID><br></Vocabulary> |
| František Vobecký<br><input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Vobecký, František   | 500028103 | <?xml version="1.0" encoding="utf-8"?><br><Vocabulary xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"   |

## Transform using GREL expression: value.parseXML().select('Vocabulary')[0].select('Current\_Subject\_ID')[0].ownText()

Custom text transform on column Sync ID

Expression Language

`value.parseXML().select('Vocabulary')[0].select('Current_Subject_ID')[0].ownText()` No syntax error.

**Preview** History Starred Help

| row | value   | value.parseXML().select('Vocab ... |
|-----|---|------------------------------------|
| 1.  | <pre>&lt;?xml version="1.0" encoding="utf-8"?&gt; &lt;Vocabulary xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:noNamespaceSchemaLocation="http://vocabsservices.getty.edu/Schemas/ULAN/ULANGetSyncSubjectId.xsd"&gt;   &lt;Current_Subject_ID&gt;500299270&lt;/Current_Subject_ID&gt; &lt;/Vocabulary&gt;</pre> | 500299270                          |
| 2.  | <pre>&lt;?xml version="1.0" encoding="utf-8"?&gt; &lt;Vocabulary xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:noNamespaceSchemaLocation="http://vocabsservices.getty.edu/Schemas/ULAN/ULANGetSyncSubjectId.xsd"&gt;   &lt;Current_Subject_ID&gt;500029715&lt;/Current_Subject_ID&gt; &lt;/Vocabulary&gt;</pre> | 500029715                          |

On error  keep original  set to blank  store error  Re-transform up to  times until no change

OK Cancel

## Sync Column Becomes Current ULAN ID



| IC | ▼ DISPLAYNAME  | ▼ ULAN ID | ▼ Sync ID |
|----|--|-----------|-----------|
|    | <b>Maxwell Hamilton</b><br><input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Maxwell, Hamilton (24)<br><input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Hamilton, Maxwell, Inc. (23)<br><input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Fry, Edwin Maxwell (14)<br><input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Bates, Maxwell (14)<br><input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Maxwell, John (14)<br><input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Create new item     | 500299270 | 500299270 |
|    | <b>Charles Aubry</b><br><input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Aubry, Charles (34)<br><input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Aubry, Charles (33)<br><input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Aubry, Emile (18)<br><input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Aubry, Louis (18)<br><input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Aubry, René Marcel (17)<br><input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Create new item                       | 500029715 | 500029715 |
|    | <b>Fédèle Azari</b><br><input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Azari, Fedele (19)<br><input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Āzarī Isfarāyīnī, Ḥamzah ibn 'Alī Malik (5)<br><input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Create new item  | 500103519 | 500103519 |
|    | <b>František Vobecký</b><br><input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Vobecký, František (43)<br><input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Schmoranz, František (17)<br><input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Fišer, František (17)<br><input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Kadlec, František (17)<br><input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Kysela, František (17)<br><input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Create new item | 500028103 | 500028103 |

# OpenRefine data enrichment example

## Using full XML from Web Service



Get full XML by adding column based on synched ULAN ID, and input formula:  
`http://vocabsservices.getty.edu/ULANService.asmx/ULANGetSubject?subjectId='+value`

**Add column by fetching URLs based on column Sync ID**

New column name  Throttle delay  milliseconds

On error  set to blank  store error  Cache responses

HTTP headers to be used when fetching URLs: [Show](#)

Formulate the URLs to fetch:

Expression  Language

**Preview** History Starred Help

| row | value     | 'http://vocabsservices.getty.e ...  |
|-----|-----------|---|
| 1.  | 500299270 | http://vocabsservices.getty.edu/ULANService.asmx/ULANGetSubject?subjectId=500299270 |
| 2.  | 500029715 | http://vocabsservices.getty.edu/ULANService.asmx/ULANGetSubject?subjectId=500029715 |
| 3.  | 500103519 | http://vocabsservices.getty.edu/ULANService.asmx/ULANGetSubject?subjectId=500103519 |
| 4.  | 500028103 | http://vocabsservices.getty.edu/ULANService.asmx/ULANGetSubject?subjectId=500028103 |

## Full XML in OpenRefine cell

| DISPLAYNAME   | ULAN ID   | Sync ID   | ULAN XML   |
|---|-----------|-----------|--|
| Maxwell Hamilton<br><input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Maxwell, Hamilton (24)<br><input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Hamilton, Maxwell, Inc. (23)<br><input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Fry, Edwin Maxwell (14)<br><input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Bates, Maxwell (14)<br><input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Maxwell, John (14)<br><input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Create new item | 500299270 | 500299270 | <pre> &lt;?xml version="1.0" encoding="utf-8"?&gt; &lt;Vocabulary xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:noNamespaceSchemaLocation="http://vocabsservices.getty.edu/Schemas/ULAN/ULANGetSubject.xsd"&gt;   &lt;Subject Subject_ID="500299270"&gt;     &lt;Parent_Relationships&gt;       &lt;Preferred_Parent&gt;         &lt;Parent_Subject_ID&gt;500000002&lt;/Parent_Subject_ID&gt;         &lt;Relationship_Type&gt;Parent/Child&lt;/Relationship_Type&gt;         &lt;Historic_Flag&gt;Undetermined&lt;/Historic_Flag&gt;         &lt;Parent_String&gt;Persons, Artists [500000002]&lt;/Parent_String&gt;         &lt;Hier_Rel_Type&gt;Instance-BTI&lt;/Hier_Rel_Type&gt;       &lt;/Preferred_Parent&gt;     &lt;/Parent_Relationships&gt;     &lt;Descriptive_Notes&gt;       &lt;Descriptive_Note&gt;         &lt;Note_Text&gt;Comment on works: landscape&lt;/Note_Text&gt;         &lt;Note_Language&gt;English&lt;/Note_Language&gt;         &lt;Note_Contributors&gt;           &lt;Note_Contributor&gt;             &lt;Contributor_id&gt;2500000011/PROV&lt;/Contributor_id&gt;           &lt;/Note_Contributor&gt;         &lt;/Note_Contributors&gt;         &lt;Note_Sources&gt;           &lt;Note_Source&gt;             &lt;Source&gt;               &lt;Source_ID&gt;2100043316/Provenance Index Databases, Authority file (1985-)&lt;/Source_ID&gt;             &lt;/Source&gt;           &lt;/Note_Source&gt;         &lt;/Note_Sources&gt;       &lt;/Descriptive_Note&gt;     &lt;/Descriptive_Notes&gt;     &lt;Record_Type&gt;Person&lt;/Record_Type&gt;     &lt;Merged_Status&gt;Merged&lt;/Merged_Status&gt;     &lt;Terms&gt;       &lt;Preferred_Term&gt;         &lt;Term_Text&gt;Maxwell, Hamilton&lt;/Term_Text&gt;         &lt;Display_Name&gt;Index&lt;/Display_Name&gt;         &lt;Historic_Flag&gt;N/A&lt;/Historic_Flag&gt;         &lt;Vernacular&gt;Undetermined&lt;/Vernacular&gt;         &lt;Term_ID&gt;1500668205&lt;/Term_ID&gt;         &lt;Term_Languages&gt;           &lt;Term_Language&gt; </pre> |

# Parse Preferred Biography from OpenRefine cell using:

```
value.parseXml().select('Vocabulary')[0].select('Subject')[0].select('Biographies')[0].select('Preferred_Biography')[0].select('Biography_Text')[0].ownText()
```

**Add column based on column ULAN XML**

New column name:

On error:  set to blank  store error  copy value from original column

Expression Language:  No syntax error.

```
value.parseXml().select('Vocabulary')[0].select('Subject')[0].select('Biographies')[0].select('Preferred_Biography')[0].select('Biography_Text')[0].ownText()
```

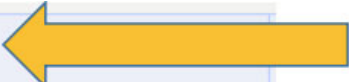
Preview History Starred Help

| row | value   | value.parseXml().select('Vocab ...        |
|-----|---|---|
| 1.  | <?xml version="1.0" encoding="utf-8"?><br><Vocabulary<br>xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"<br>xsi:noNamespaceSchemaLocation="http://vocabs:<br><Subject Subject_ID="500299270"><br><Parent_Relationships><br><Preferred_Parent><br><br><Parent_Subject_ID>500000002</Parent_Subject | Scottish painter and architect, 1830-1923 |

OK Cancel

Preferred Biography in OpenRefine cells:

| DISPLAYNAME   | ULAN ID   | Sync ID   | Pref Bio                                    |
|---|-----------|-----------|---|
| Maxwell Hamilton<br><input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Maxwell, Hamilton (24)<br><input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Hamilton, Maxwell, Inc. (23)<br><input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Fry, Edwin Maxwell (14)<br><input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Bates, Maxwell (14)<br><input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Maxwell, John (14)<br><input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Create new item     | 500299270 | 500299270 | Scottish painter and architect, 1830-1923   |
| Charles Aubry<br><input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Aubry, Charles (34)<br><input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Aubry, Charles (33)<br><input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Aubry, Emile (18)<br><input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Aubry, Louis (18)<br><input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Aubry, René Marcel (17)<br><input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Create new item                       | 500029715 | 500029715 | French photographer and designer, 1811-1877 |
| Fédèle Azari<br><input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Azari, Fedele (19)<br><input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Āzarī Isfarāyīnī, Ḥamzah ibn 'Alī Malik (5)<br><input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Create new item  | 500103519 | 500103519 | Italian photographer, 1895-1930             |
| František Vobecký<br><input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Vobecký, František (43)<br><input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Schmoranz, František (17)<br><input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Fišer, František (17)<br><input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Kadlec, František (17)<br><input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Kysela, František (17)<br><input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Create new item | 500028103 | 500028103 | Czech photographer, 1902-1990               |
| Eugen Wiskovsky<br><input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Wiškovský, Eugen (18)<br><input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Kahler, Eugen von (17)<br><input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Ržibek, Eugen (17)<br><input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Nevan, Eugen (17)<br><input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Osswald, Eugen (13)<br><input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Create new item                   | 500031206 | 500031206 | Czech photographer, 1888-1964               |



# Parsing Variant Terms from Getty Vocabulary XML

## Add column, and using full XML, parse all variant names for an artist/person:

```
join(forEach(value.parseXml().select('Vocabulary')[0].select('Subject')[0].select('Terms')[0].select('Non-Preferred_Term'),term,term.select('Term_Text')[0].ownText()),", ")
```

**Add column based on column ULAN XML**

New column name: Variants

On error:  set to blank  store error  copy value from original column

Expression Language: General Refine Expression Language (GREL) ▾

Expression: `join(forEach(value.parseXml().select('Vocabulary')[0].select('Subject')[0].select('Terms')[0].select('Non-Preferred_Term'),term,term.select('Term_Text')[0].ownText()),", ")` No syntax error.

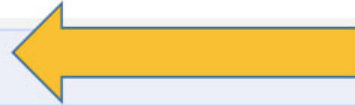
Preview History Starred Help

| row | value   | join(forEach(value.parseXml(). ...    |
|-----|---|---------------------------------------|
| 1.  | <pre>&lt;?xml version="1.0" encoding="utf-8"?&gt; &lt;Vocabulary xmlns:xsi="http://www.w3.org/2001/XMLSchema- instance" xsi:noNamespaceSchemaLocation="http://vocabs: &lt;Subject Subject_ID="500299270"&gt;   &lt;Parent_Relationships&gt;     &lt;Preferred_Parent&gt;    &lt;Parent_Subject_ID&gt;500000002&lt;/Parent_Subject</pre> | Hamilton Maxwell, H. Maxwell, Maxwell |

OK Cancel

Variant names, comma-separated, in OpenRefine cells:

| DISPLAYNAME  | ULAN ID   | Sync ID   | Variants  | Pref Bio                                    | Pref Term          |
|--|-----------|-----------|---|---|--------------------|
| <b>Maxwell Hamilton</b><br><input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Maxwell, Hamilton (24)<br><input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Hamilton, Maxwell, Inc. (23)<br><input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Fry, Edwin Maxwell (14)<br><input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Bates, Maxwell (14)<br><input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Maxwell, John (14)<br><input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Create new item | 500299270 | 500299270 | Hamilton Maxwell, H. Maxwell, Maxwell                     | Scottish painter and architect, 1830-1923   | Maxwell, Hamilton  |
| <b>Charles Aubry</b><br><input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Aubry, Charles (34)<br><input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Aubry, Charles (33)<br><input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Aubry, Emile (18)<br><input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Aubry, Louis (18)<br><input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Aubry, René Marcel (17)<br><input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Create new item                   | 500029715 | 500029715 | Charles Aubry, Aubry, Charles-Hippolyte                   | French photographer and designer, 1811-1877 | Aubry, Charles     |
| <b>Fédèle Azari</b><br><input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Azari, Fedele (19)<br><input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Āzarī Isfarāyīnī, Ḥamzah ibn 'Alī Malik (5)<br><input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Create new item  | 500103519 | 500103519 | Fedele Azari  | Italian photographer, 1895-1930             | Azari, Fedele      |
| <b>František Vobecký</b><br><input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Vobecký, František (43)<br><input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Schmoranz, František (17)<br><input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Fišer, František (17)<br><input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Kadlec, František (17)<br><input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Kysela, František   | 500028103 | 500028103 | Vobecky, Frantisek, František Vobecký, Vobecký, Frantisek | Czech photographer, 1902-1990               | Vobecký, František |



# Using OpenRefine with the SPARQL Endpoint – and TGN



# Get preferred term by adding column by “fetching URLs” based on TGN ID, and input formula:

`http://vocab.getty.edu/sparql.json?query=select+(str(?t)+as+?term)+{tgn:'+'escape(value,'url')+''+gvp:prefLabelGVP/gvp:term+?t}'`

### Add column by fetching URLs based on column TGN ID

New column name  Throttle delay  milliseconds

On error  set to blank  store error  Cache responses

HTTP headers to be used when fetching URLs: [Show](#)

Formulate the URLs to fetch:

Expression  Language

```
'http://vocab.getty.edu/sparql.json?query=select+(str(?t)+as+?term)+{tgn:'+'escape(value,'url')+''+gvp:prefLabelGVP/gvp:term+?t}'
```

No syntax error.

**Preview** History Starred Help

| row | value   | 'http://vocab.getty.edu/sparql ...  |
|-----|---------|---|
| 1.  | 7001371 | http://vocab.getty.edu/sparql.json?query=select+(str(?t)+as+?term)+{tgn:7001371+gvp:prefLabelGVP/gvp:term+?t} |
| 2.  | 7000354 | http://vocab.getty.edu/sparql.json?query=select+(str(?t)+as+?term)+{tgn:7000354+gvp:prefLabelGVP/gvp:term+?t} |
| 3.  | 7013051 | http://vocab.getty.edu/sparql.json?query=select+(str(?t)+as+?term)+{tgn:7013051+gvp:prefLabelGVP/gvp:term+?t} |
| 4.  | 1079604 | http://vocab.getty.edu/sparql.json?query=select+(str(?t)+as+?term)+{tgn:1079604+gvp:prefLabelGVP/gvp:term+?t} |

OK Cancel

## Transform resulting JSON: value.parseJson().results.bindings[0].term.value

Custom text transform on column Pref Term

Expression Language General Refine Expression Language (GREL) ▾

`value.parseJson().results.bindings[0].term.value` No syntax error.

[Preview](#) [History](#) [Starred](#) [Help](#)

| row | value  | value.parseJson().results.bind ... |
|-----|--|------------------------------------|
| 1.  | <pre>{   "head": {     "vars": [ "term" ]   },   "results": {     "bindings": [ {       "term": {         "type": "literal",         "value": "Yerushalayim"       }     }   ] }</pre> | Yerushalayim                       |

On error  keep original  set to blank  store error  Re-transform up to  times until no change



## Parse resulting JSON: value.parseJSON().results.bindings[0].lat.value+', '+value.parseJson().results.bindings[0].long.value

**Custom text transform on column LatLong**

Expression Language

`value.parseJSON().results.bindings[0].lat.value+', '+value.parseJson().results.bindings[0].long.value` No syntax error.

[Preview](#) [History](#) [Starred](#) [Help](#)

| row | value   | value.parseJson().results.bind ... |
|-----|---|------------------------------------|
| 1.  | <pre>{   "head": {     "vars": ["lat", "long"]   },   "results": {     "bindings": [ {       "lat": {         "datatype": "http://www.w3.org/2001/XMLSchema#decimal",         "type": "literal",         "value": "31.7667"       }     }   ] }</pre> | 31.7667, 35.2333                   |

On error  keep original  set to blank  store error  Re-transform up to  times until no change

## Resulting data enrichment:

| <input type="checkbox"/> All                      | <input type="checkbox"/> TGN ID | <input type="checkbox"/> Pref Term | <input type="checkbox"/> LatLong |
|---|---------------------------------|------------------------------------|----------------------------------|
| <input type="checkbox"/> <input type="checkbox"/> | 1. 7001371                      | Yerushalayim                       | 31.7667, 35.2333                 |
| <input type="checkbox"/> <input type="checkbox"/> | 2. 7000354                      | Marrakech                          | 31.633, -8.009                   |
| <input type="checkbox"/> <input type="checkbox"/> | 3. 7013051                      | Montréal                           | 45.5, -73.6                      |
| <input type="checkbox"/> <input type="checkbox"/> | 4. 1079604                      | Qiryat Tiv'on                      | 32.7167, 35.1333                 |
| <input type="checkbox"/> <input type="checkbox"/> | 5. 7010273                      | Sankt-Peterburg                    | 59.8833, 30.25                   |
| <input type="checkbox"/> <input type="checkbox"/> | 6. 7001369                      | Tel Aviv-Yafo                      | 32.0833, 34.7667                 |
| <input type="checkbox"/> <input type="checkbox"/> | 7. 1079614                      | Rishon LeZiyyon                    | 31.95, 34.8                      |
| <input type="checkbox"/> <input type="checkbox"/> | 8. 7007567                      | New York                           | 40.7, -74                        |
| <input type="checkbox"/> <input type="checkbox"/> | 9. 7023856                      | Shanghai                           | 31.222222, 121.458056            |
| <input type="checkbox"/> <input type="checkbox"/> | 10. 7001370                     | Ramat Gan                          | 32.0833, 34.8167                 |
| <input type="checkbox"/> <input type="checkbox"/> | 11. 1079547                     | Kinneret                           | 32.7167, 35.5667                 |
| <input type="checkbox"/> <input type="checkbox"/> | 12. 1079641                     | Umm el Faḥm                        | 32.5167, 35.15                   |
| <input type="checkbox"/> <input type="checkbox"/> | 13. 7001371                     | Yerushalayim                       | 31.7667, 35.2333                 |
| <input type="checkbox"/> <input type="checkbox"/> | 14. 7001362                     | Ḥefa                               | 32.8167, 34.9833                 |
| <input type="checkbox"/> <input type="checkbox"/> | 15. 7012178                     | Dushanbe                           | 38.6333, 68.85                   |
| <input type="checkbox"/> <input type="checkbox"/> | 16. 7004443                     | Düsseldorf                         | 51.216667, 6.766667              |
| <input type="checkbox"/> <input type="checkbox"/> | 17. 7012333                     | Mulhouse                           | 47.738082, 7.347932              |
| <input type="checkbox"/> <input type="checkbox"/> | 18. 7001371                     | Yerushalayim                       | 31.7667, 35.2333                 |
| <input type="checkbox"/> <input type="checkbox"/> | 19. 7001369                     | Tel Aviv-Yafo                      | 32.0833, 34.7667                 |
| <input type="checkbox"/> <input type="checkbox"/> | 20. 7001369                     | Tel Aviv-Yafo                      | 32.0833, 34.7667                 |
| <input type="checkbox"/> <input type="checkbox"/> | 21. 7001369                     | Tel Aviv-Yafo                      | 32.0833, 34.7667                 |
| <input type="checkbox"/> <input type="checkbox"/> | 22. 1079466                     | Holon                              | 32.0167, 34.7667                 |

# Getty Vocabulary Program OpenRefine service

<https://www.getty.edu/research/tools/vocabularies/obtain/openrefine.html>

**Thank you.**

Jonathan Ward  
Sr Editor, Getty Vocabulary Program  
Getty Research Institute