

Enabling Descriptive Data to be Linked

Discovery Services Forum

May 2021



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Descriptive Data Management

Diane Shaw

Special Collections Cataloger

Topics

May

- Descriptive Data Management
 - Record description & Descriptive data (statements)
- Wikimedia activities
 - Wikipedia, Wikidata, Wikibase, Wikimedia Commons, etc.

June

- Wikibase and Wikidata (06/09)
 - SI Wikibase Pilot (VPN only: sil-viweb-wikibase.si.edu)
 - PCC Wikidata Pilot Project overview
- PCC Wikidata Pilot—Smithsonian Projects (06/23)
 - African ethnic groups, Artists Files, Dibner scientists portraits, Chinese ancestors portraits (Qing Dynasty), Smithsonian Research Online (SRO)



Descriptive Data Management

- G1. Hone new tech skills
 - OCLC Connexion (Record Manager in WMS), Horizon
 - MarcEdit, OpenRefine, Spreadsheet (Google, MS)
 - MacroExpress, OCLC MacroBook
- video clip: bit.ly/SI_LinkedData_cataloging*
- G5. Non-library data
 - Ephemerals, Artist files, etc.
- G6. Optimize ontologies benefits across SI units
 - NACO, SACO, Wikidata, Getty, etc.
- G4. Prepare library data to be linked
 - Library data → Data sets in RDF (Resource Description Framework) triple statements
 - Content standards (moving away from AACR)
 - RDA (Resource Description & Access), RDF-RDA
 - IFLA LRM (Library Reference Model)
 - Encoding standard (moving away from MARC21)
 - BIBFRAME
 - Record description → Descriptive data
 - Modeling descriptive data in a linked open data platform

Descriptive Data Management

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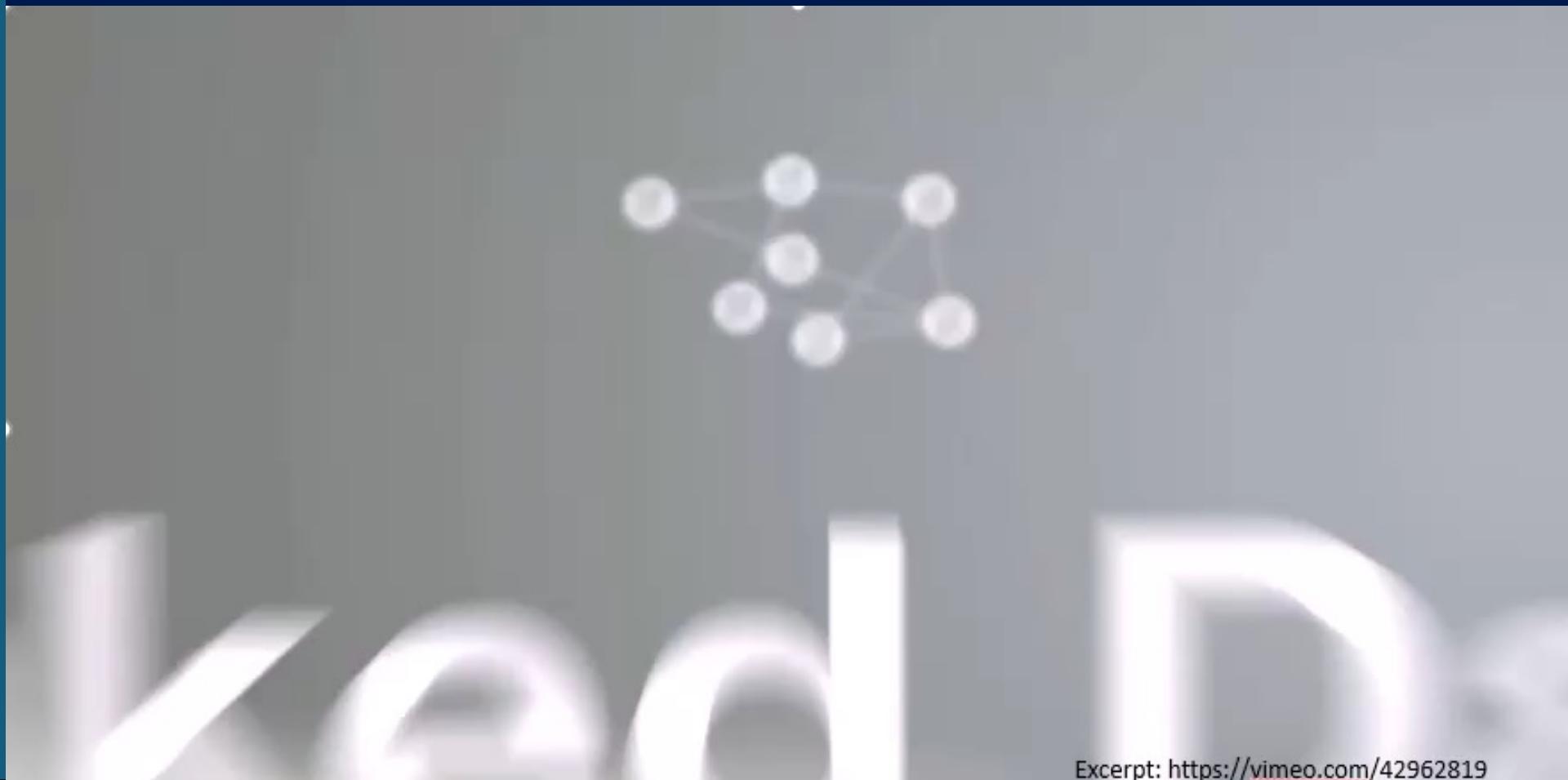
Once emerging standards

- AACR (Anglo-American cataloging rules)
 - RDA (Resource Description & Access)
 - IFLA LRM (Library Reference Model)
- DCRM(B) (Descriptive Cataloging of Rare Materials (Books))
 - DCRM (B)(Descriptive Cataloging of Rare Materials (Books))
- DACS (Describing archival content standards)
 - Bibliographic Framework (BIBFRAME, BF)
- MARC & MARC21

Descriptive Data

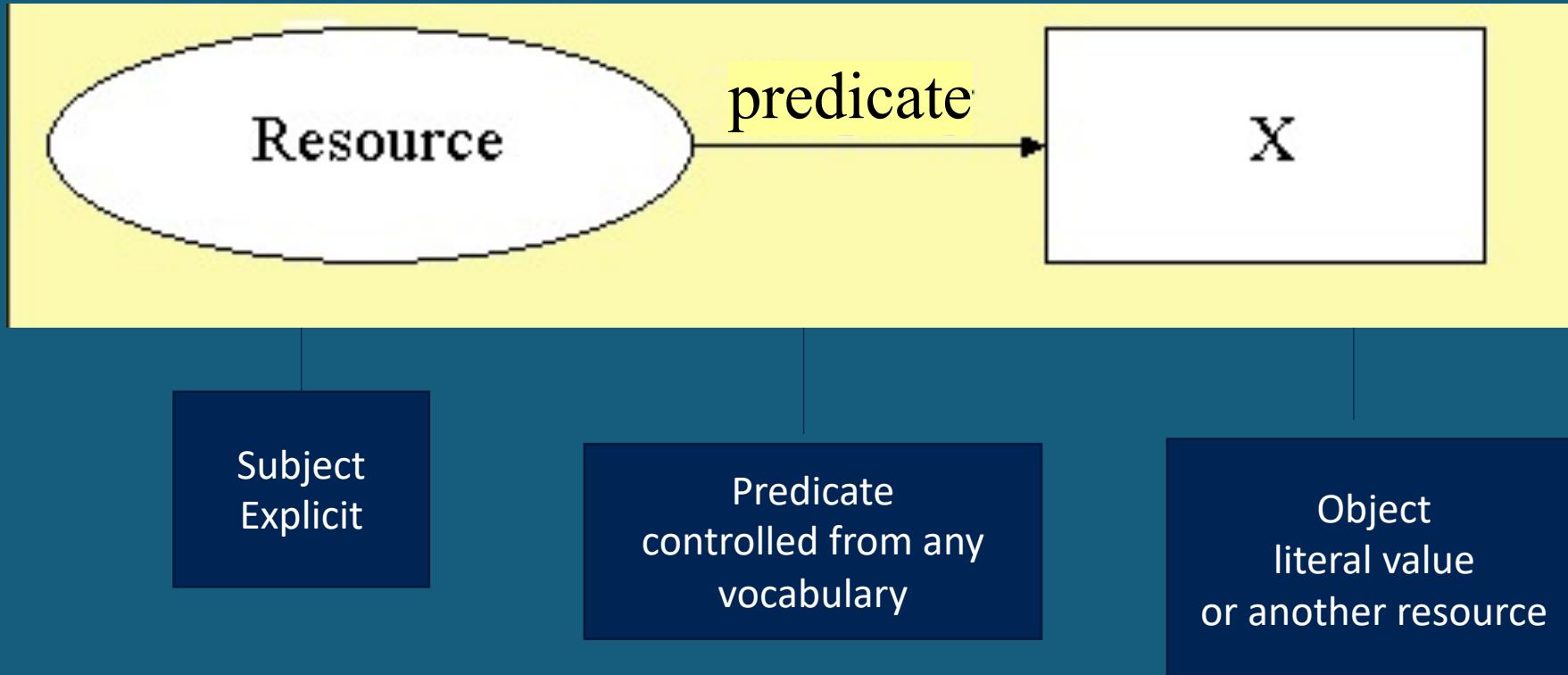
A radical shift of describing resource from
a flat description to a real world object description
an entity based description
a 2-D to a 3-D worldview

Entity, no more record



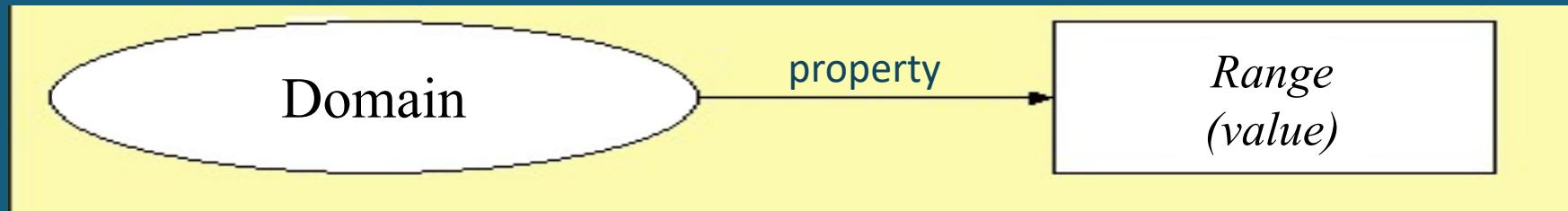
Excerpt: <https://vimeo.com/42962819>

A RDF statement

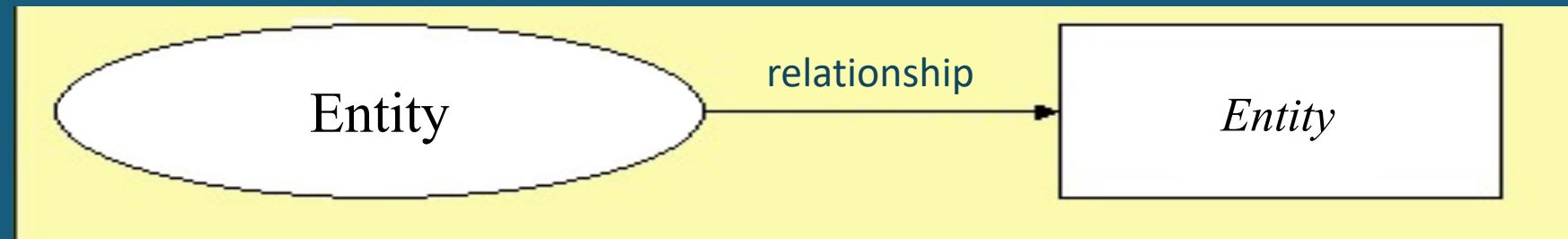


RDF variant representations

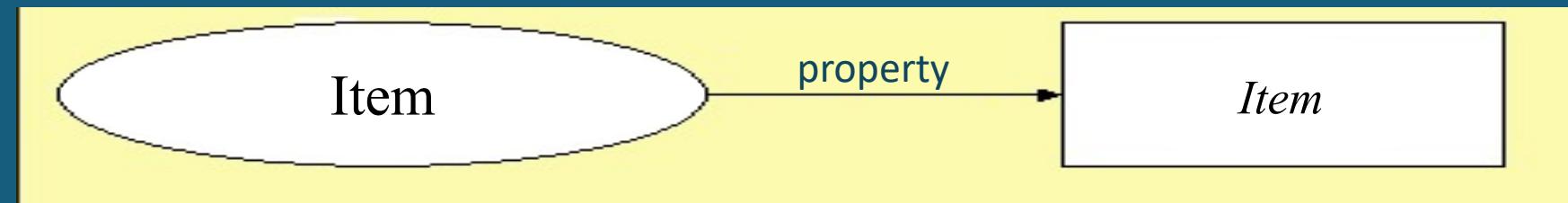
RDA RDF



IFLA LRM



Wikidata



Record Description



Man from the farthest past, by C.W. Bishop, Charles Greeley Abbott, and Aleš Hrdlička

Smithsonian Libraries and Archives

Object Details

Author

Bishop, Carl Whiting

Abbot, C. G (Charles Greeley) 1872-1973

Hrdlička, Aleš 1869-1943

1930

si.edu/object/siris_sil_23492

Man from the farthest past, / by C.W. Bishop, Charles Greeley Abbott, and Aleš Hrdlička.

Author:	Bishop, Carl Whiting.
Title:	Man from the farthest past, / by C.W. Bishop, Charles Greeley Abbott, and Aleš Hrdlička.
Publisher:	New York, Smithsonian Institution Series, inc., 1930.
Description:	375 p. illus.
Series:	Smith. Sci. Ser., -- vol. 7
Subject:	Prehistoric peoples Primitive societies
Added Author:	Abbot, C. G. (Charles Greeley), 1872-1973 Hrdlička, Aleš, 1869-1943
Added Series:	Smith. Sci. Ser. ; vol. 7.
Catalog Source No.:	(OCoLC)ocm00476263

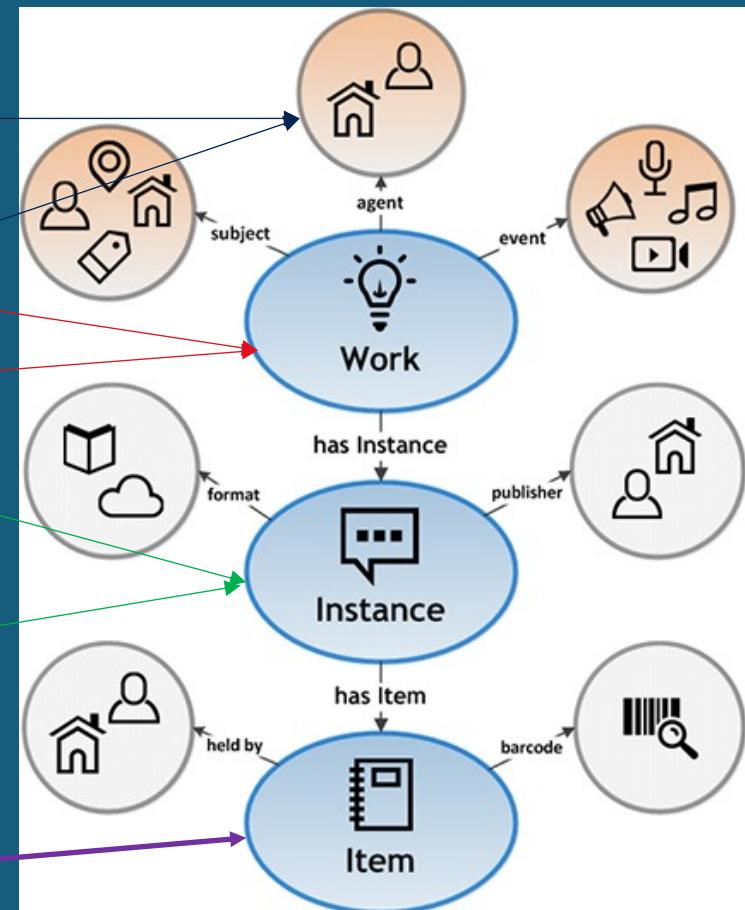
Copy/Holding information

Call No.	Collection	Barcode	Status
GN738 .B54	SI Tropical Research Institute	39088001335785	Checked In

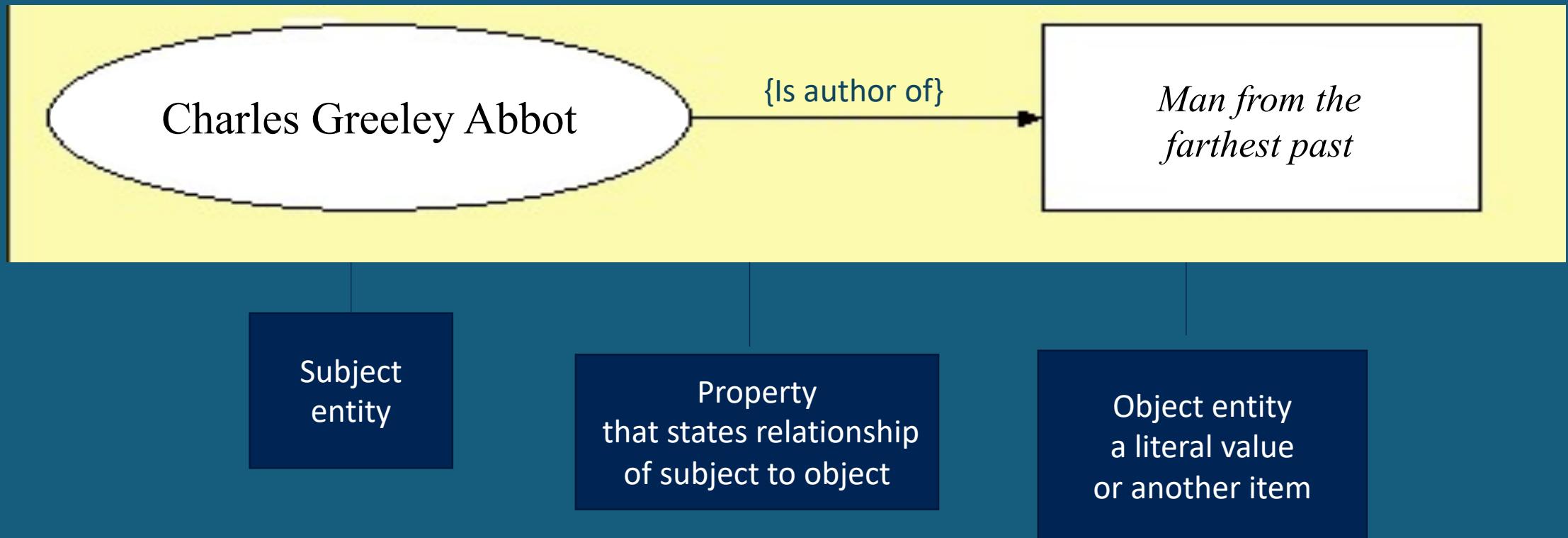


Record decomposed

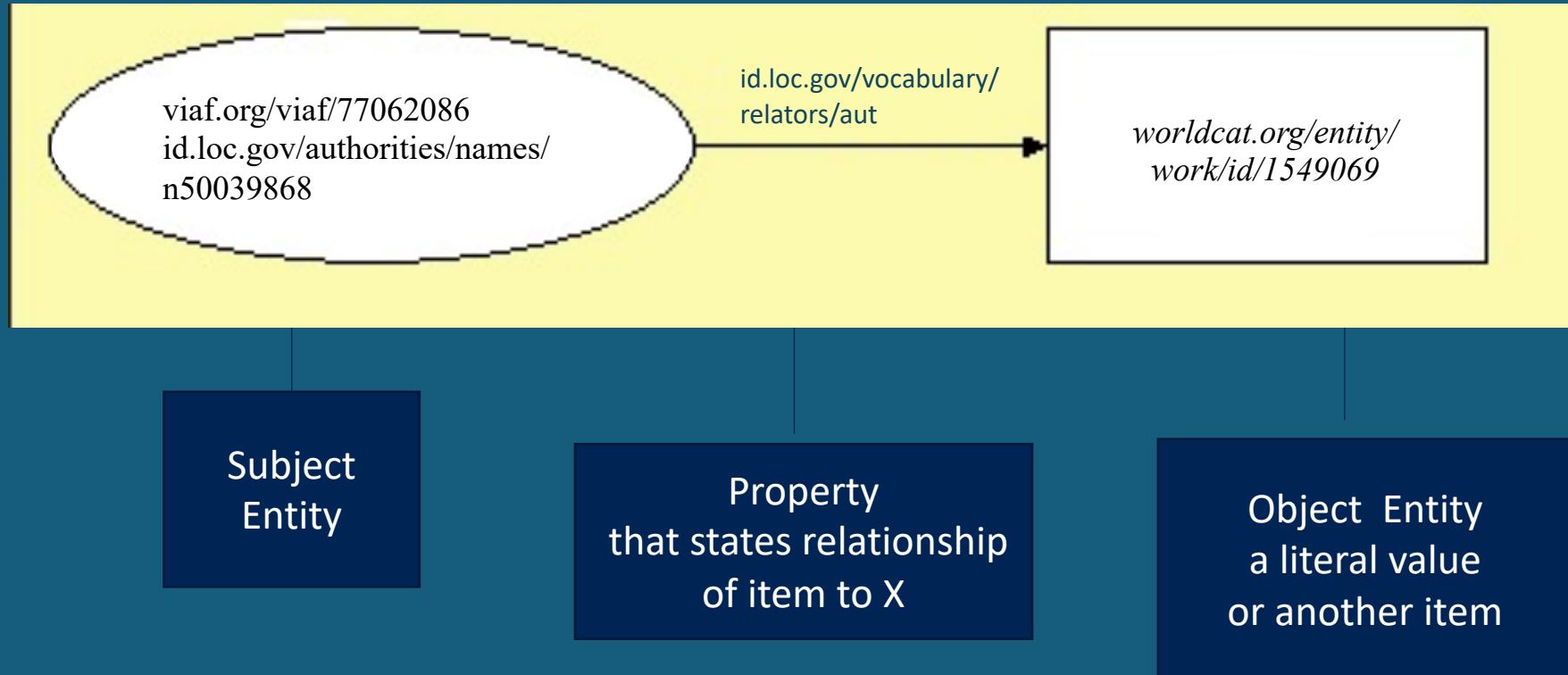
Man from the farthest past, / by C.W. Bishop, Charles Greeley Abbott, and Aleš Hrdlička.			
Author:	Bishop, Carl Whiting.		
Title:	Man from the farthest past, / by C.W. Bishop, Charles Greeley Abbott, and Aleš Hrdlička.		
Publisher:	New York, Smithsonian Institution Series, inc., 1930.		
Description:	375 p. illus.		
Series:	Smith. Sci. Ser. -- vol. 7		
Subject:	Prehistoric peoples Primitive societies		
Added Author:	Abbot, C. G. (Charles Greeley), 1872-1973 Hrdlička, Aleš, 1869-1943		
Added Series:	Smith. Sci. Ser. ; vol. 7.		
Catalog Source No.:	(OCOLOC)ocm00476263		
Copy/Holding information			
Call No.	Collection	Barcode	Status
GN738 .B54	SI Tropical Research Institute	39088001335785	Checked In



An entity statement



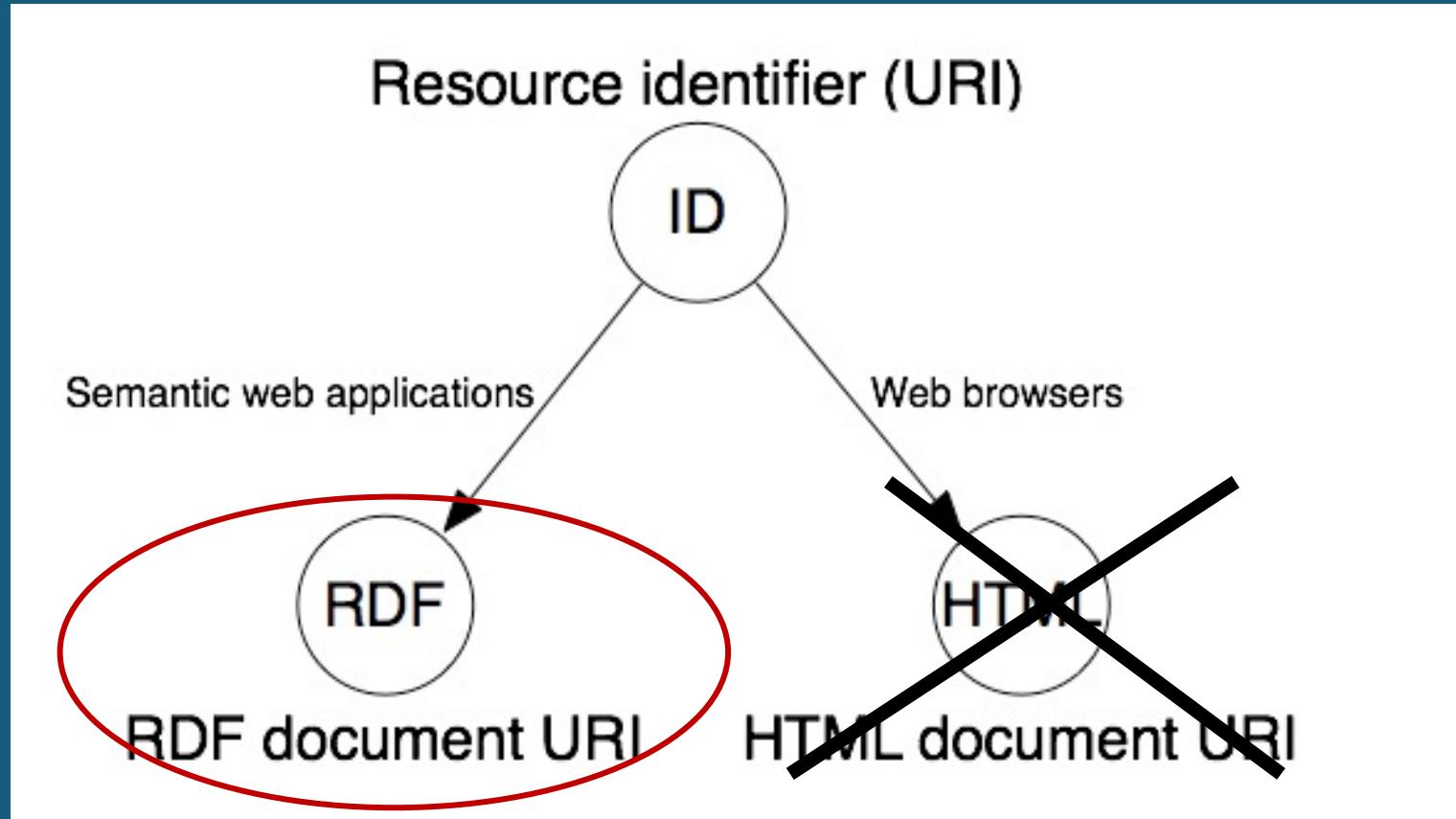
An entity statement with URLs



Not all URIs are equal

3XX: Request will complete after further action

301 (Redirect)
303 (See other)



2XX: Request successfully received, understood and accepted

<https://www.w3.org/TR/cooluris/>

MARC bibliographic data

Where should URIs/IRIs for RDF objects go?

- \$0 Authority record control number or **standard number**
 \$0 <http://id.loc.gov/authorities/names/n90710805>
- \$1 Real World Object (RWO)
 \$1 <http://www.wikidata.org/entity/Q36322>
- \$4 Relationship
 \$4 <http://id.loc.gov/entities/relationships/composer>
 \$4 <http://rdaregistry.info/Elements/a/P50522>
- \$u **URL** (Uniform Resource Locator)
 \$u <http://id.loc.gov/authorities/names/n90710805.html>

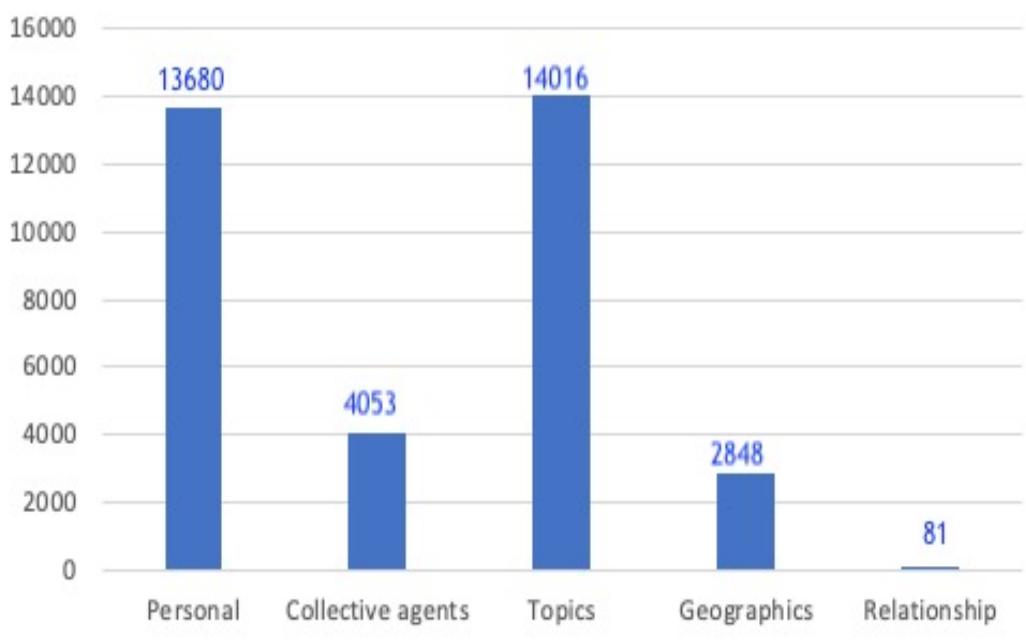
Before and after FAST/LD enhancements

LDR
005 n a m _ _ _
005 20000111174600.0
008 721024 s 1930 _ _ _ _ _ nyu a _ _ _ _ _ 0 0 0 0 _ eng _ d
035 †a AAC3510LB
035 †a (OCOlc)ocm00476263
040 †a DXU †c DXU †d OCL †d SMI †d WaOLN †d WaOLN
049 †a SMJB
090 †a GN738 †b .B54
099 †a GN738.B54
100 1 †a Bishop, Carl Whiting.
245 1 0 †a Man from the farthest past, †c by C.W. Bishop, Charles Greeley Abbot
260 †a New York, †b Smithsonian Institution Series, inc., †c 1930.
300 †a 375 p. †b illus.
490 1 †a Smith. Sci. Ser., †v vol. 7
650 - 0 †a Prehistoric peoples
650 - 0 †a Primitive societies
700 1 †a Abbot, C. G. †q (Charles Greeley), †d 1872-1973
700 1 †a Hrdlička, Aleš, †d 1869-1943
830 - 0 †a Smith. Sci. Ser.; †v vol. 7.
945 - †a RCP
945 - †a osds 4/10/96 update 700/1
945 - †a osds 9/23/96 update 700/2
951 - †a 23492

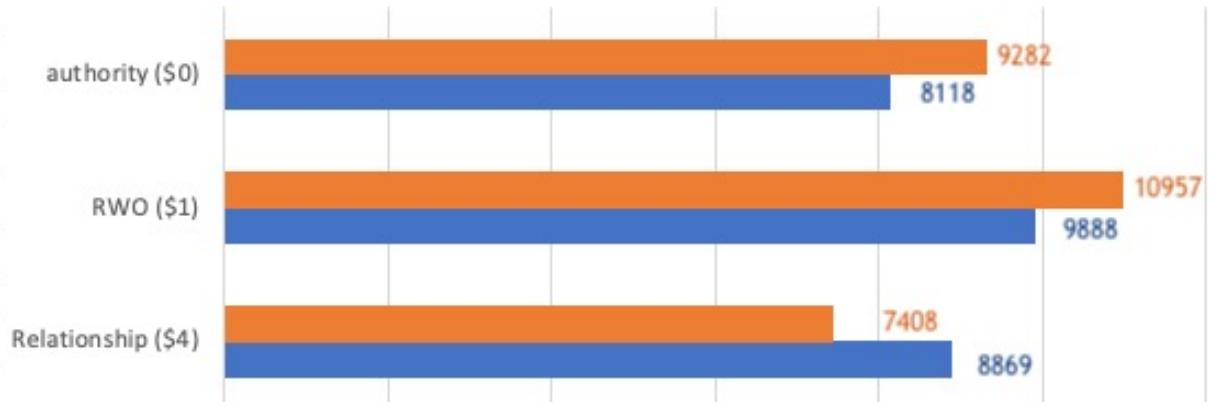
LDR 02016cam a2200481Ic 4500
001 ocm00853300/
003 OCoLC
005 20210412090125.0
008 740410s1930\\\nyuabf\\\nb\\\n000\\0\\eng\\\n010 \\\\$a 30033590
040 \\\\$aDLC\\$beng\\$erda\$cRIU\$dCHS\$dOCL\$dSER\$dOCL\$dOCLCG\\$dOCLCQ\$dOCLCG\\$dUPMS\$dVVW\$dOCLCO\$dOCLCF\$dP4I\$dKKU\$dOCLCO
\$dOCLCQ\\$dUCW\\$dOCLCO\\$dCSJ\\$dOCLCO
019 \\\\$a476263\\$a987053994\\$a1016202899
035 \\\\$a (OCOlc)853300\\$z (OCOlc)476263\\$z (OCOlc)987053994\\$z (OCOlc)1016202899
050 00\\$aGN738\\$b.B5
050 \\\\$aQ11\\$b.S73 v. 7
051 \\\\$aQ11\\$b.S732 vol. 7\$cCopy 2
060 \\\\$aQ 11 S664 v.7 1930
082 04\\$a571
049 \\\\$aSMII
100 1\\\$aBishop, Carl Whiting, \$d1881-1942\$eauthor\$4http://id.loc.gov/vocabulary/relators/aut\$0http://id.loc.gov/
authorities/names/nr00024618\$1http://viaf.org/viaf/26903912
245 10\\$aMan from the farthest past\$cby Carl Whiting Bishop ... with the collaboration of Charles Greeley Abbot
... and Aleš Hrdlička
264 1\\\$a [New York] \\$b [Smithsonian Institution series, Incorporated]\$c1930
300 \\\\$a6 preliminary leaves, iii, 375 pages\$bcolor frontispiece, illustrations (including map) 100 plates
(some color) on 65 leaves\$c25 cm
336 \\\\$atext\$btxt\$2rdacontent\$0http://id.loc.gov/vocabulary/contentTypes/txt
337 \\\\$aunmediated\$bn2rdamedia\$0http://id.loc.gov/vocabulary/mediaTypes/n
338 \\\\$avolume\$bnc\$2rdacarrier\$0http://id.loc.gov/vocabulary/carriers/nc
490 1\\\$aSmith. Sci. Seri. ;\$vv. 7
500 \\\\$aOn cover: Patrons edition
500 \\\\$aOne of the plates accompanied by guard sheet with descriptive letterpress
504 \\\\$aIncludes bibliographical references (pages 352-358)
650 \\\\$aAnthropology\$0http://id.loc.gov/authorities/subjects/sh85005581
650 \\\\$aPrehistoric peoples\$0http://id.loc.gov/authorities/subjects/sh85080302
650 \\\\$aCivilization\$xHistory\$0http://id.loc.gov/authorities/subjects/sh85026424
650 \\\\$aAnthropology\$2fast\$0http://id.worldcat.org/fast/00810196
650 \\\\$aCivilization\$2fast\$0http://id.worldcat.org/fast/00862898
650 \\\\$aPrehistoric peoples\$2fast\$0http://id.worldcat.org/fast/01075242
650 \\\\$aAnthropology\$0http://id.nlm.nih.gov/mesh/D000883
650 \\\\$aCivilization\$xhistory\$0http://id.nlm.nih.gov/mesh/D002962Q000266
655 \\\\$aHistory\$2fast\$0http://id.worldcat.org/fast/01411628
700 1\\\$aAbbot, C. G.\$q(Charles Greeley)\$d1872-1973\$eauthor\$4http://id.loc.gov/vocabulary/relators/aut\$0http://
id.loc.gov/authorities/names/n50039866\$1http://viaf.org/viaf/77062086
700 1\\\$aHrdlička, Aleš\$d1869-1943\$eauthor\$4http://id.loc.gov/vocabulary/relators/aut\$0http://id.loc.gov/
authorities/names/n50042241\$1http://viaf.org/viaf/51797905
758 \\\\$4http://rdaregistry.info/Elements/u/P60052\$1http://worldcat.org/entity/work/id/1549069
830 \\\\$aSmithsonian scientific series ;\$vv. 7
951 \\\\$a23492

URIs counts in Horizon

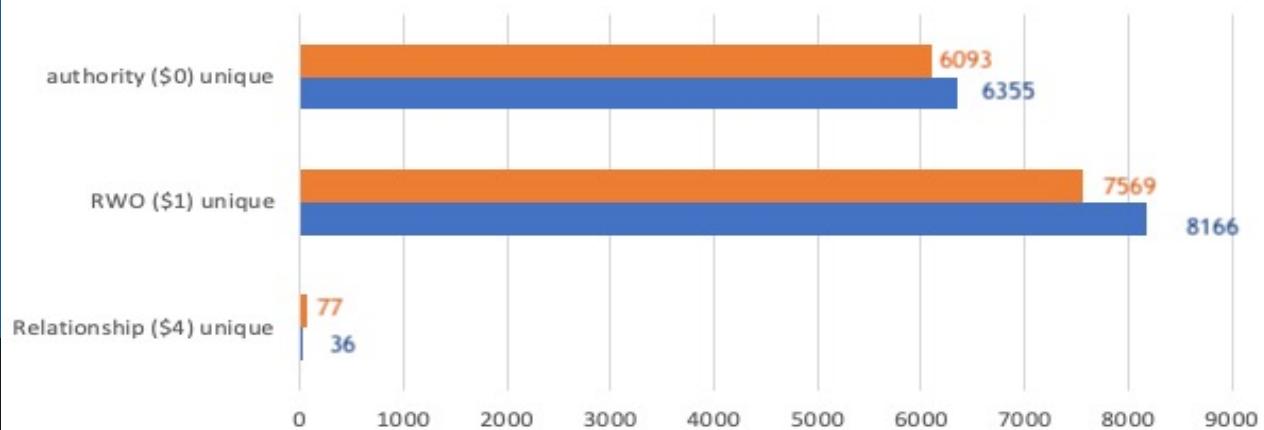
Unique RDF URI by category



URIs Occurences (MARC **100** vs **700**)



URIs Single Occurrence (MARC **100** vs **700**)



Record → Entity relationship



Man from the farthest past, by Bishop, Charles Greeley Abbot Ales Hrdlicka

Smithsonian Libraries and Archives

Object Details

Author

Bishop, Carl Whiting

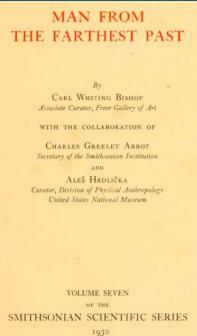
Abbot, C. G (Charles Greeley) 1872-1973

Hrdlička, Aleš 1869-1943

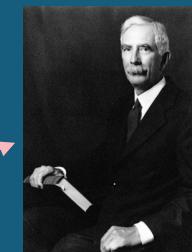
1930

si.edu/object/siris_sil_23492

Author:	Bishop, Carl Whiting, 1881-1942 author
Title:	Man from the farthest past / by Carl Whiting Bishop ... with the collaboration of Charles Greeley Abbot ... and Aleš Hrdlička
Publisher:	[New York] [Smithsonian Institution series, Incorporated] 1930
Description:	6 preliminary leaves, iii, 375 pages color frontispiece, illustrations (including map) 100 plates (some color) on 65 leaves 25 cm
Series:	Smith. Sci. Seri. ; -- v. 7
Notes:	On cover: Patrons edition One of the plates accompanied by guard sheet with descriptive letterpress
Bibliography Note:	Includes bibliographical references (pages 352-358)
Subject:	Anthropology Prehistoric peoples Civilization -- History Anthropology Civilization Prehistoric peoples Anthropology Civilization -- history
Genre:	History
Added Author:	Abbot, C. G. (Charles Greeley) 1872-1973 author
Added Series:	Smithsonian scientific series ; v. 7



worldcat.org/entity/work/id/1549069



Charles Greeley Abbot

viaf.org/viaf/77062086

id.loc.gov/authorities/names/n50039868

[Is] author [of]

id.loc.gov/vocabulary/relators/aut

A Linked Open Data Platform Sample



Charles Greeley Abbot (Q210126)

https://www.wikidata.org/wiki/Q210126

Search Wikidata

Charles Greeley Abbot (Q210126)

[Item](#) [Discussion](#) [☆](#)

American astrophysicist and the 5th Secretary of the Smithsonian

Recoin: Most relevant properties which are absent

In more languages

Language	Label	Description
English	Charles Greeley Abbot	American astronomer and astrophysicist, Secretary of the Smithsonian
Spanish	Charles Greeley Abbot	No description available

All entered languages

Statements

instance of  human

Man from the farthest past (Q514)

[New York, Smithsonian Institution series, inc.]1930. | Patrons edition

Other properties

From related items

officeholder	Secretary of the Smithsonian	Chief executive officer of the Smithsonian Institution
	start time : 1928	
	end time : 1944	
	series ordinal : 5	
winner	Henry Draper Medal	award point in time : 1910
named after	Abbot	lunar crater start time : 1973
depicts	Charles Greeley Abbot	painting by Samantha Littlefield Huntley
author	Charles Greeley Abbot	painting by Nicholas Richard Brewer
author	Man from the farthest past	[New York, Smithsonian Institution series, inc.]1930. Patrons edition. Smithsonian Libraries View Book
	stated as : Abbot, C. G. (Charles Greeley), 1872-1973	
author	The sun and the welfare of man	New York, Smithsonian Institution Series, inc., 1929. Smithsonian Libraries View Book
	stated as : Abbot, C. G. (Charles Greeley), 1872-1973	

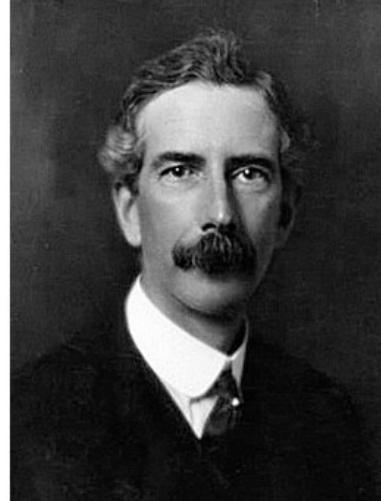
Navigation

- Main page
- Community portal
- Project chat
- Create a new item
- Recent changes
- Random item
- Query Service
- Nearby
- Help
- Donate

Lexicoographical data

WIKIDATA





External sources

Wikimedia projects

Current language Wikipedias

en Charles Greeley Abbot

Big Wikipedias

Charles Greeley Abbot

Charl

Charles Greeley Abbot

Chariot es

Charles Greeley Abbot
Charles Abbot

Connect cloud

Concept cloud



Wikimedia Projects

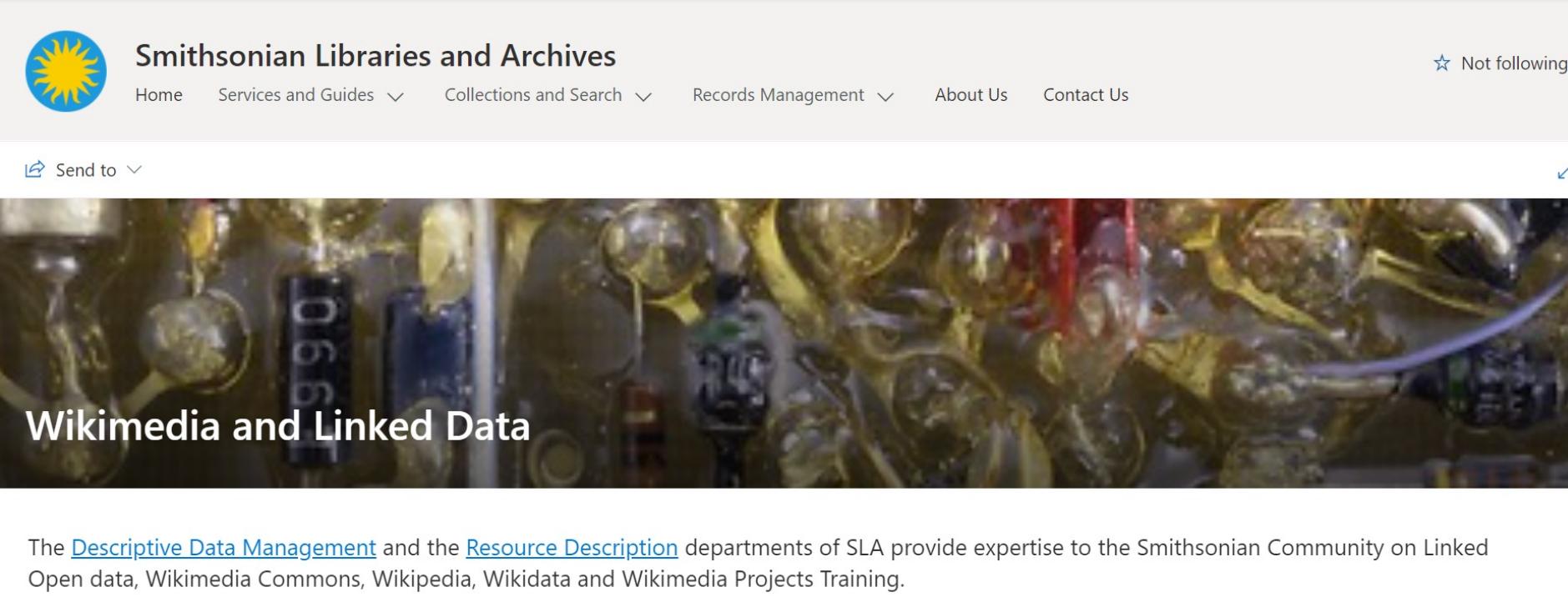
- non-profit
- multilingual
- free-content

Wikimedia Activities & the Smithsonian

The screenshot shows the Wikimedia Foundation website. At the top, there's a navigation bar with links: Our Work (underlined), Support Wikipedia, Research, Advocacy, Technology, News, Participate, and About. A language selector "EN" is also present. Below this, a large yellow banner features the text "OUR WORK" and "We help everyone share in the sum of all knowledge." To the right of the text is a photograph of people working in a library or study area. A white box contains the text: "We are the people who keep knowledge free. There is an amazing community of people around the world that makes great projects like Wikipedia. We help them do that work. We take".

The thumbnail for a Smithsonian Open Access video. It features a colorful geometric background with orange, red, and blue triangles. The title "Smithsonian Open Access: 2.8 Mil..." is at the top left, followed by a play button icon. On the right, there are "Watch later", "Share", and "1/4" buttons. The main text in the center reads "CREATE. IMAGINE. DISCOVER." in large, bold, white letters, with the hashtag "#SmithsonianOpenAccess" below it. The Smithsonian logo is in the bottom right corner.

Smithsonian linked data and Wikimedia projects make a great partnership! But how did we get here?



The screenshot shows the LinkedIn profile of the Smithsonian Libraries and Archives. The profile picture is a yellow sun icon. The header text is "Smithsonian Libraries and Archives". The navigation bar includes links for Home, Services and Guides, Collections and Search, Records Management, About Us, and Contact Us. A "Not following" button is visible. Below the header is a "Send to" dropdown and a share icon. The main image is a close-up photograph of a complex mechanical or electrical assembly, possibly a clock mechanism. Overlaid on the image is the text "Wikimedia and Linked Data". At the bottom of the profile, there is a white box containing the text: "The [Descriptive Data Management](#) and the [Resource Description](#) departments of SLA provide expertise to the Smithsonian Community on Linked Open data, Wikimedia Commons, Wikipedia, Wikidata and Wikimedia Projects Training."

WIKIPEDIA

The Free Encyclopedia

English

6 291 000+ articles

日本語

1 266 000+ 記事



Español

1 679 000+ artículos

Deutsch

2 571 000+ Artikel

Русский

1 720 000+ статей

中文

1 194 000+ 條目

Polski

1 471 000+ haseł

Português

1 066 000+ artigos

It all started with Wikipedia

- Created in 2001; Wikimedia Foundation created in 2003 to administer it
- Open source
- Volunteer editors & developers
- International in scope
- One of the top 10 most visited websites



Smithsonian
Libraries and Archives

Wikimedia Projects Family



**WIKIMEDIA
COMMONS**

Media repository for
image, sound, and video files

**Collaborative projects are the
core of the Wikimedia
movement.**

Our volunteers build tools, share photos, write articles, and are working to connect all the knowledge that exists.



WIKISOURCE

Online library of freely available source texts, including translations in any language

The GLAMWiki Movement



The **GLAM–Wiki initiative** ("galleries, libraries, archives, and museums" with Wikipedia; also including botanic gardens and zoos) helps cultural institutions share their resources with the world through collaborative projects with experienced Wikipedia editors.

- Started circa 2010, with the first Wikipedian in Residence at the British Museum
- GLAM workers & enthusiasts are an important part of the Wiki community

SI & Wiki Projects

- SI Wikimedians in Residence, 2011-
- SIL Wikipedia Visiting Scholar, 2017-2018
- AWHI Open Knowledge Coordinator (Kelly Doyle)
- Wikimedian at Large (Andrew Lih)





Wikidata: A GLAM Game-Changer!

- A free and open knowledge base that can be read and edited by both humans and machines
- Central storage for the **structured data** of its Wikimedia sister projects including Wikipedia, Wikivoyage, Wiktionary, Wikisource, and others

Uses for Wikidata

- Central storage for identifiers
- A hub of connecting facts about people, places, things, and concepts
- A source to pull data from to reuse in other projects

WIKIDATA IN BRIEF

Claim: Item – Property – Value

Item Q number
Property P number

item	property	value
Marie Curie	field of work	chemistry
Q7186	P101	Q2329

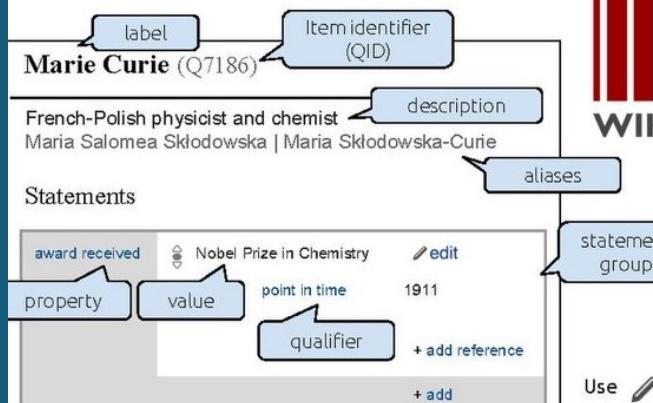
Wikidata item basics

[Label, description, aliases](#) – human friendly language-specific strings

[Statements](#) – includes identifiers, sitelinks at bottom of an item

[Qualifiers](#) – adds details to claims (ie. dates, distinctions, etc)

[Copyright](#) - all content in Wikidata is Creative Commons CC0 (public domain)



Critical concepts

[Help:Basic membership properties](#)
Instance (P31) vs subclass (P279)

Help:Sources

Adding references, use "stated in" or "reference URL"

Displaying items

[Reasonator](#) and [SOID](#) – rich visual display of Wikidata items

[Wikidata Graph Builder](#) – show connectedness of items based on properties

Querying

[Query.wikidata.org](#) – SPARQL interface. Explore example queries and display options. CTRL-Space auto-expands item and property names to Q/P numbers.

[VizQuery](#) – simple query using rules without requiring coding



Use edit and +add to modify

Simple editing tools

[Distributed Game](#) – contribute through Yes/No/Skip micro-decisions

[Mix-n-Match](#) – connect external identifiers to Wikidata items

Bulk editing

[Quickstatements](#) – use tab-delimited claims to edit

[PetScan](#) – powerful toolbox for Wikipedia categories and Wikidata

[OpenRefine](#) – open source tool for cleaning messy data, reconciliation

[Data donation](#) - how and why to contribute, and guidelines for institutions

Other tools

[TABernacle](#) – inspect and edit Wikidata interactively in table format

[Google Spreadsheet Wikipedia Tools](#) – query Wikipedia and Wikidata from spreadsheet cells

[External tools](#) – comprehensive list of all Wikidata tools

[WikiBase](#) – open source software extension to MediaWiki that runs Wikidata. Available as a Docker container to create a custom structured data repository

Community and news

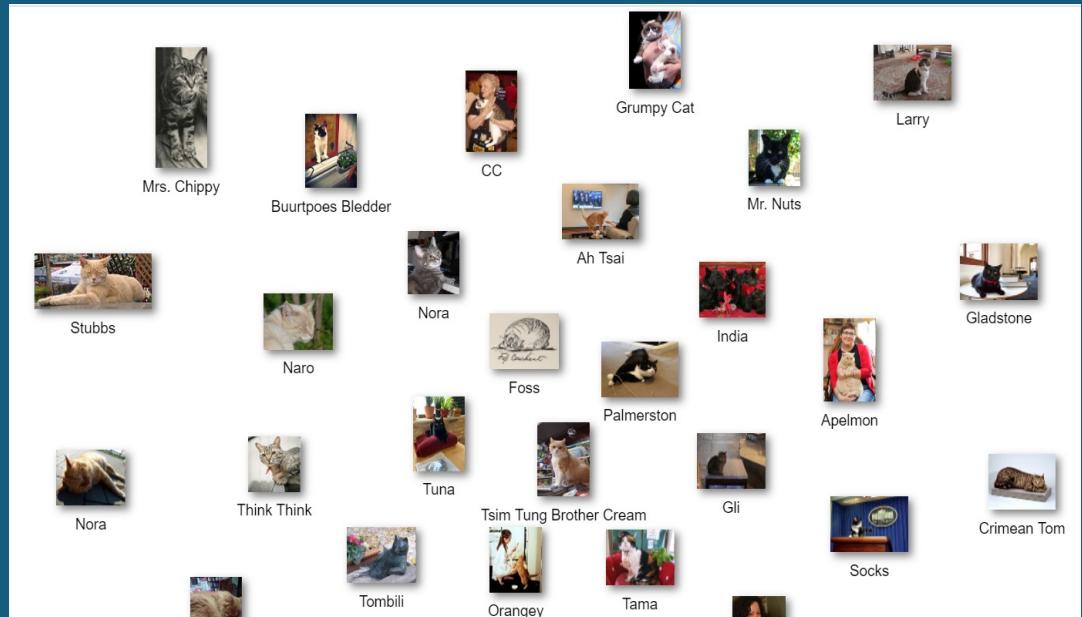
[Wikidata:Project chat](#) – discussion forum

[Wikidata:Status updates](#) – weekly summary newsletter

Wikidata Query Service: Now it's easy to find pictures of famous cats! Or lots of other things

Wikidata Query Service Examples Help More tools

#Cats, with pictures
#defaultView:ImageGrid
SELECT ?item ?itemLabel ?pic
WHERE
{
?item wdt:P31 wd:Q146 .
?item wdt:P18 ?pic
SERVICE wikibase:label { bd:serviceParam wikibase:language "[AUTO_LANGUAGE],en" }
}





MediaWiki

MediaWiki

- A collaboration and documentation platform that powers Wikipedia & is used by 1000s of organizations
- MediaWiki is great for large projects: it's scalable, free, & open source

Wikibase

- A powerful, flexible and customizable knowledge base software (an extension to MediaWiki) that powers Wikidata
- JavaScript interface for data management
- Development led by a Wikimedia Deutschland team



Smithsonian Wikibase Pilot: Learn more at the DISC Forum on June 9, 2021

Create account Log in

Main page Discussion Read View source View history Search SI Wikibase

Smithsonian
Wikibase Pilot

Main page Recent changes Random page Help about MediaWiki New Item New Property List of Properties Search Tools What links here Related changes Special pages Printable version Permanent link Page information

Main Page

Welcome to the Smithsonian's Wikibase Pilot!

This instance is for getting us comfortable in the Wikibase environment, and to start modeling out how to implement a Wikibase for Smithsonian data.

Consult the [User's Guide](#) for information on using the wiki software.

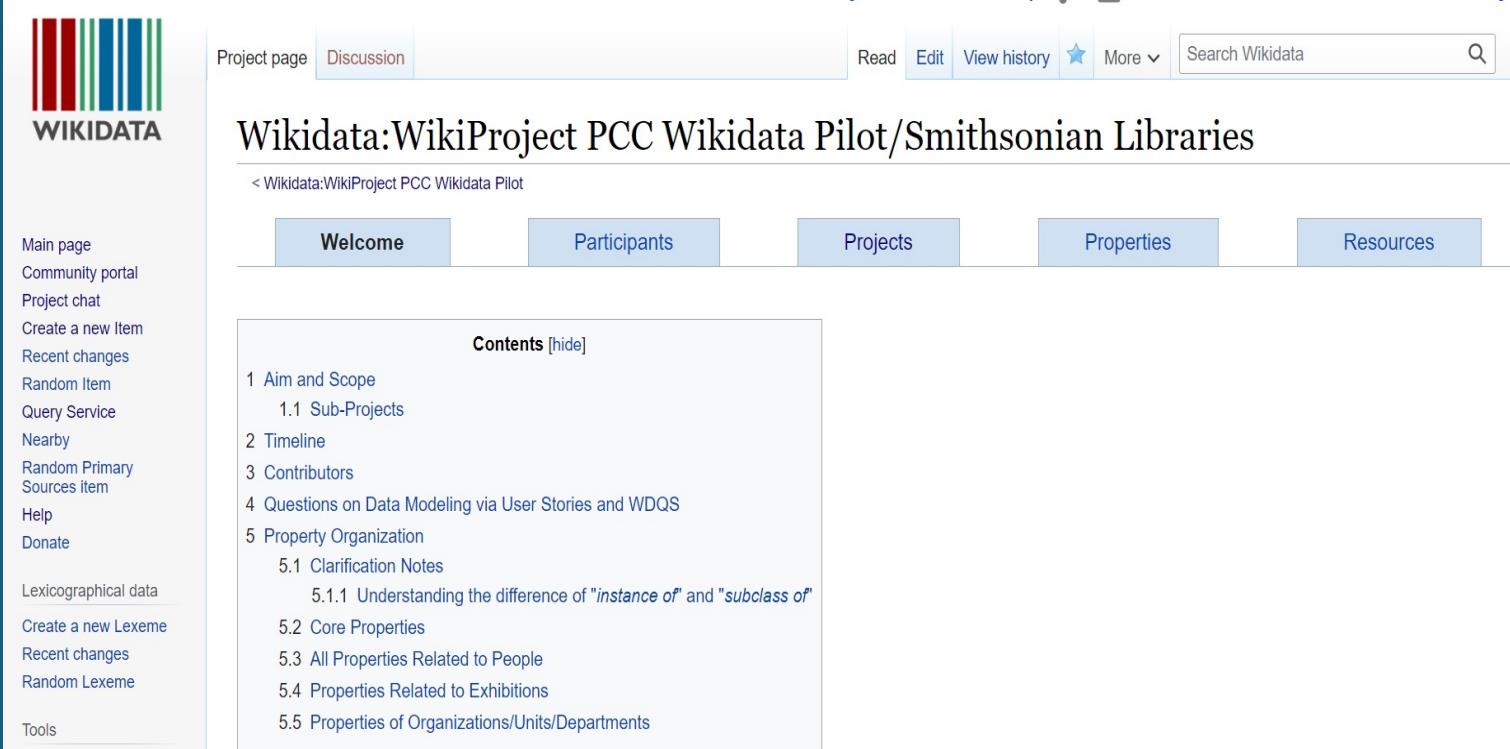
Looking to search Properties? Try [Special:Search](#) and choose Advanced. Then you can select to search properties, items, discussion, or anything else listed.

Contents [hide]

- 1 Policies
- 2 Creating new items
- 3 Wikibase Components
- 4 Project Plans
- 5 Program Administration
- 6 Getting started

PCC Wikidata Pilot: Re-envisioning Name & Subject Authority Files

- The work of SLA's PCC Wikidata Pilot teams will be featured at the DISC Forum on June 23, 2021



The screenshot shows a Wikipedia page for the "Wikidata:WikiProject PCC Wikidata Pilot/Smithsonian Libraries" project. The page has a standard Wikipedia header with tabs for "Project page" (selected), "Discussion", "Read", "Edit", "View history", "More", and a search bar. Below the header, the title is displayed: "Wikidata:WikiProject PCC Wikidata Pilot/Smithsonian Libraries". A breadcrumb trail indicates the page is under "Wikidata:WikiProject PCC Wikidata Pilot". The main content area features a "Welcome" section and several tabs: "Participants", "Projects", "Properties", and "Resources". A "Contents [hide]" sidebar lists the following sections: 1 Aim and Scope, 1.1 Sub-Projects, 2 Timeline, 3 Contributors, 4 Questions on Data Modeling via User Stories and WDQS, 5 Property Organization, 5.1 Clarification Notes (with a sub-item 5.1.1 Understanding the difference of "instance of" and "subclass of"), 5.2 Core Properties, 5.3 All Properties Related to People, 5.4 Properties Related to Exhibitions, and 5.5 Properties of Organizations/Units/Departments.

Some resources

- SI PRISM Metadata and Controlled Vocabulary

sinet.sharepoint.com/sites/Prism-SLA/SitePages/Metadata-and-Controlled-Vocabularies.aspx

- SI PRISM Wikimedia and Linked Data

sinet.sharepoint.com/sites/Prism-SLA/SitePages/Wikimedia-and-Linked-Data.aspx

- PCC URIs in MARC Pilot

loc.gov/aba/pcc/pilots/URIs-in-MARC-Pilot.html

- PCC Wikidata Pilot: Smithsonian Libraries

wikidata.org/wiki/Wikidata:WikiProject_PCC_Wikidata_Pilot/Smithsonian_Libraries

- BIBFRAME editors

bibframe.org/bfe

sinopia.io



Thank you!



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