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**Eurasian Academic Libraries Conference – 2021**  
**“Contemporary Trends in Information Organization in the**  
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**June 29-30, 2021**



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# **Implementing BIBFRAME in a Pilot Project at the Yale University Library**

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# Presentation Outline

1. Context and overview of the project
2. Introduction to BIBFRAME
  - BIBFRAME and MARC
  - BIBFRAME and RDA
  - BIBFRAME and extensions
3. Introduction to the Sinopia Editor
4. Conclusions

The background features a photograph of a modern library building with a grid of windows. The words "ΚΙΤΑΠΧΑΝΑ" and "LIBRARY" are visible on the upper left. A large, bright green, curved abstract shape overlaps the bottom and left sides of the image. The main text is centered on a white background.

# Context and overview of the project

# Linked Data for Production Project (LD4P2)

- Two-year Project (2018–2020), funded by a grant from the Andrew W. Mellon Foundation.
- Managed by Stanford University.
- Focused on building a community of practice.
- 16 other research libraries participated in the project.
- Stanford was responsible for creating a new cataloging tool (the Sinopia Editor) for the participating libraries.

# Goals of Yale's LD4P2 Subproject

1. Lay the foundation for workflows based on linked data standards.
2. Create descriptive metadata using BIBFRAME and the [Art and Rare Materials Ontology](#) (ARM).
3. Explore possibilities for search, discovery, and data visualization in the context of the Semantic Web.

# Yale's LD4P2 Subproject

- Joint project between the technical services departments of the Central Library and the Beinecke Rare Book & Manuscript Library.
  - Tim Thompson, responsible for the Central Library
  - Audrey Pearson, responsible for the Beinecke Library
- Divided into three groups:
  - **Leadership Team**
    - 5 people who helped manage the project
  - **Metadata Creation Team**
    - 20 people, including professionals and paraprofessionals
  - **Advisory Team**
    - 10 people who advised the project



# Changes to the Original Timeline

- We had planned to complete a year of cataloging in Sinopia (from April 2019 to April 2020).
- However, development of the editor was delayed, and we did not begin until February 2020.
- With the arrival of the COVID-19 pandemic, our expected time for cataloging was shortened further.
- In the end, we were able to catalog over 200 items in total.
- We completed the project in August 2020.





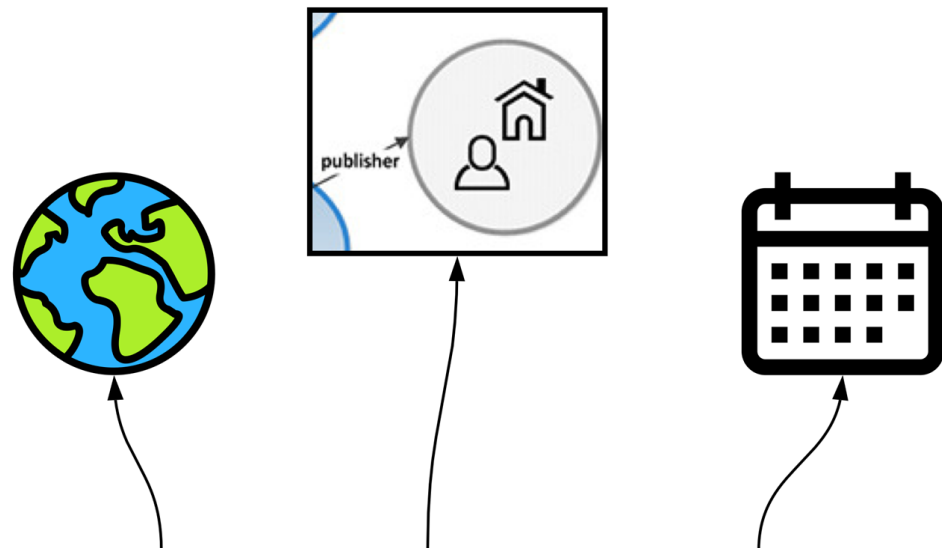
# Introduction to BIBFRAME

# What is BIBFRAME?

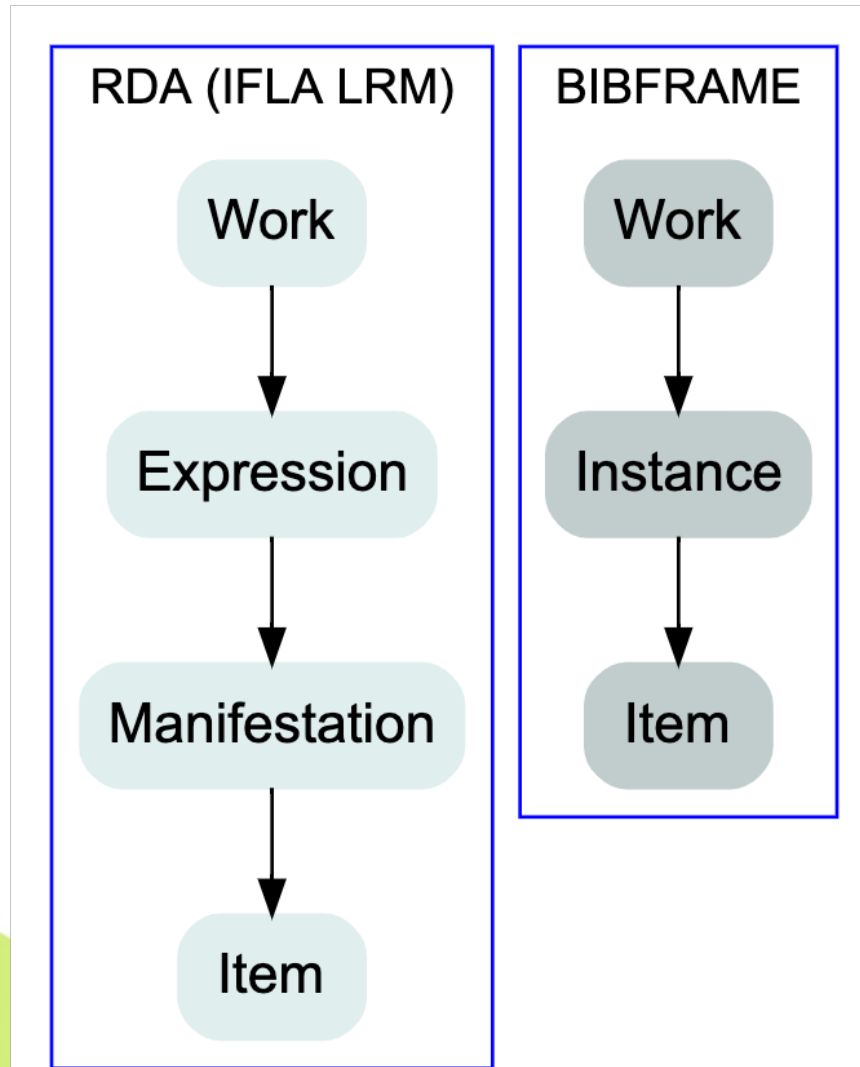
- **BIBFRAME timeline:**
  - **2011:** The US Library of Congress (LC) announces the creation of the BIBFRAME standard.
  - **2013:** version 1.0 of BIBFRAME is released.
  - **2015:** after initial tests, a review and evaluation process begins.
  - **2016:** version 2.0 of BIBFRAME is published.
  - **To the present:** LC continues carrying out cataloging pilot projects with BIBFRAME, using its own in-house editor.

# BIBFRAME and MARC

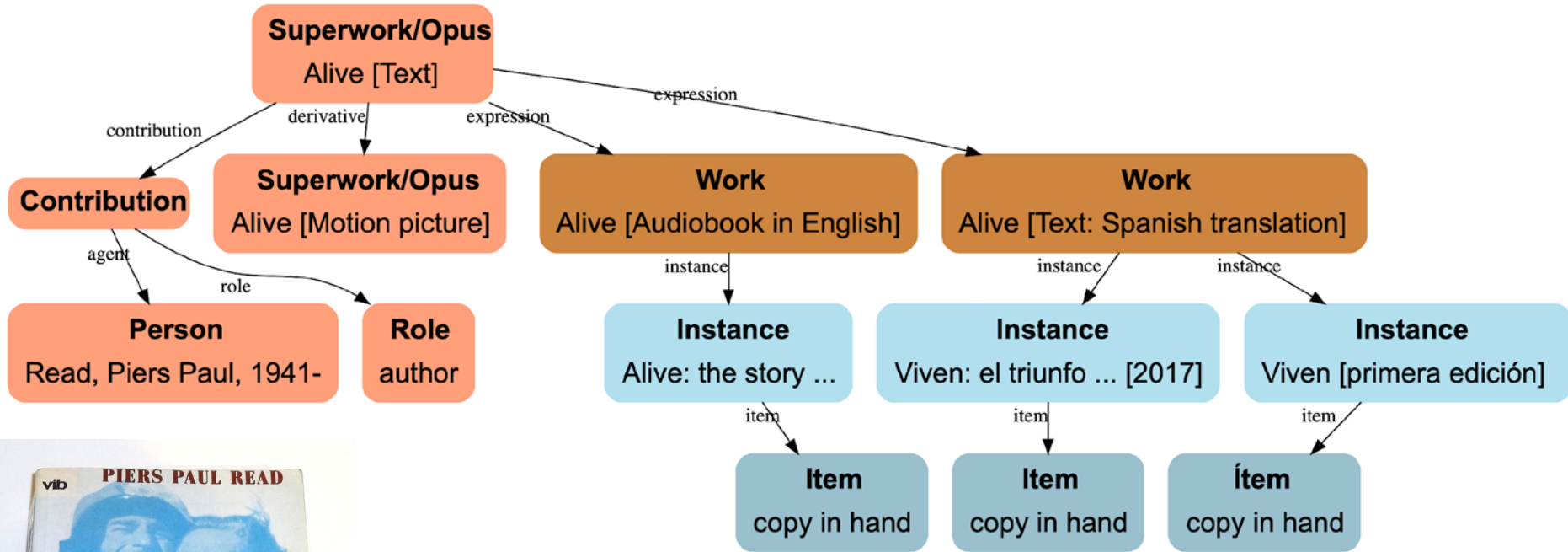
- The MARC formats are over 50 years old and were not designed for linked data.
- MARC is focused on standalone records.
- BIBFRAME depends on relationships between resources.



# BIBFRAME and RDA



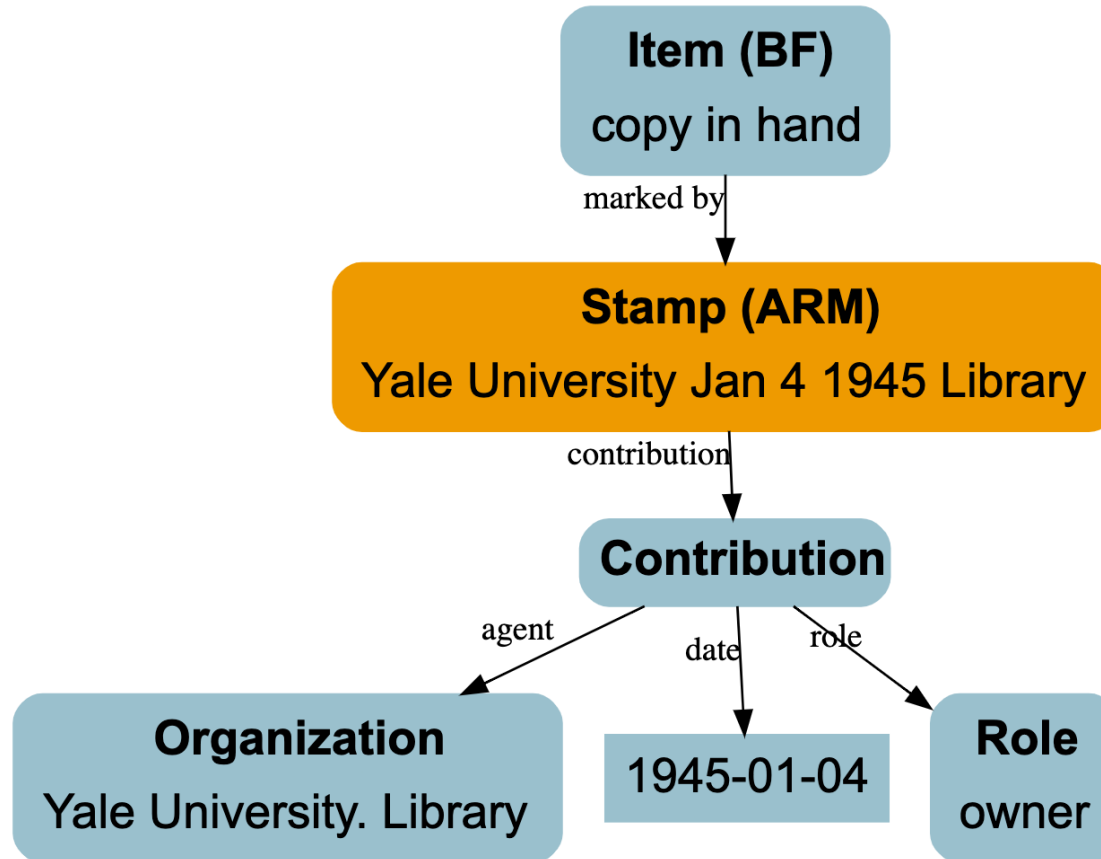
# Graph of Relations in BIBFRAME



# BIBFRAME and Extensions

- In contrast to RDA, BIBFRAME does not impose limits or constraints on the use of other ontologies and vocabularies.
- One BIBFRAME extension used at Yale was the Art and Rare Materials Ontology (ARM).

# BIBFRAME and ARM







# Introduction to the Sinopia Editor

# Sinopia Linked Data Editor

- Developed at Stanford University in the context of the LD4P2 project.
- Still in development, as a primary focus of the third and current phase of the project (LD4P3).
- To access Sinopia, visit:
  - <https://stage.sinopia.io> (sandbox instance)
  - <https://sinopia.io> (production instance)
- Users must register and create an account to use the hosted version of the tool.

## Latest news

### Sinopia Version 3.5.2 highlights

*For complete release notes see the [Sinopia help site](#).*

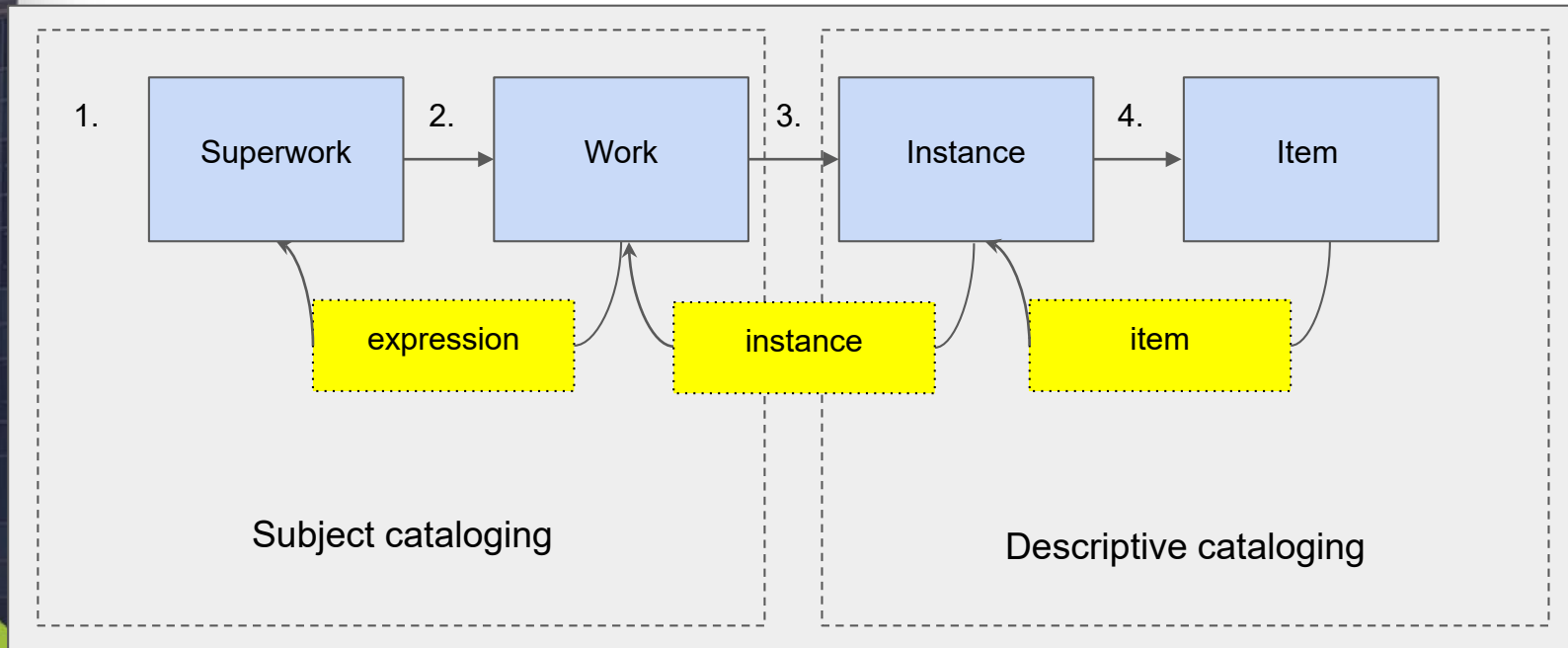
- Dashboard includes records user worked on recently
- Lookup enhancements: faster lookups; ability to page more results; ability to use diacritics in search string; result counts; dropdown lists sorted
- Template creation enhancements: when nesting a template, choose from menu of existing templates; when adding lookups, choose from menu of available lookups

The underdrawing for the new world of linked data in libraries

# Templates in Sinopia

- Each data entry form requires a corresponding template.
- The hosted platform includes default templates for different formats.
- There is a list of templates in Sinopia, with their corresponding identifiers.
- Users can develop their own templates.
- The primary templates used by Yale were: Superwork, Work, Instance, and Item.

# Template Sequence



# LINKED DATA EDITOR - STAGE

Find a resource template



[New template](#)

▼ [Most recently used templates](#)

Label / ID	Resource URI	Author	Date	Guiding statement	
<a href="#">Yale Monograph Item (CtY)</a> Yale:RT:BF2:Monograph:Item-CtY	http://id.loc.gov/ontologies/bibframe/Item	Tim Thompson (timothy.thompson@yale.edu)	Sep 18, 2019		
<a href="#">Yale Monograph Manifestation (CtY)</a> Yale:RT:BF2:Monograph:Instance-CtY	http://id.loc.gov/ontologies/bibframe/Instance	Tim Thompson (timothy.thompson@yale.edu)	Sep 18, 2019	based on LC template Id4p:RT:bf2:Monograph:Instance	
<a href="#">Yale Monograph Expression (CtY)</a> Yale:RT:BF2:Monograph:Work-CtY	http://id.loc.gov/ontologies/bibframe/Work	Tim Thompson (timothy.thompson@yale.edu)	Sep 18, 2019	based on LC template Id4p:RT:bf2:Monograph:Work	
<a href="#">Yale Monograph RDA Work (CtY)</a> Yale:RT:BF2:Monograph:SuperWork-CtY	http://share-vde.org/rdfBibframe/SuperWork	Tim Thompson (timothy.thompson@yale.edu)	Nov 17, 2019		
<a href="#">Yale Monograph Item (CtY-BR)</a> Yale:RT:BF2:Monograph:Item-CtY-BR	http://id.loc.gov/ontologies/bibframe/Item	Tim Thompson (timothy.thompson@yale.edu)	Sep 18, 2019		



# Sinopia: Superwork (*RDA Work*)

Name in Sinopia	MARC 21 Codes
contribution	1XX
title information	130, 240
classification number	050
original language	008:35-37, 041, 546\$a
origin date	008:07-14, 046, 26X\$c
place of origin	008:15-17, 370\$g
subjects	6XX
genre/form	008:33, 380
admin metadata	cabecera, 005, 040, etc.



[related authority \(name title or uniform title\)](#)

✓ **contribution**

✓ Primary Contribution

primary contributor

✓ role

Contribution

[title information](#)

[Authorized Access Point for the Work](#)

✓ [classification numbers](#)

[original language \(language of Representative Expression\)](#)

[origin date](#)

[place of origin](#)

[geographic coverage of the content](#)

[temporal coverage of the content](#)

✓ [subjects](#)

[genre/form](#)

[contents](#)

[note](#)

✓ [admin metadata](#)

✓ [type](#)

## contribution

### Primary Contribution

+ Add another

#### ▼ primary contributor ⓘ



#### Person

+ Add another

##### ▼ search



Read, Piers Paul

**Input author (person).**

ä

Lookup

##### ▼ Authorized Access Point ↗



Authorized Access Point

ä

#### Corporate Body

+ Add another

+ Add search

+ Add Authorized Access Point ↗

#### Conference

+ Add another

+ Add search

+ Add Authorized Access Point ↗

#### Family

+ Add another

+ Add search

+ Add Authorized Access Point ↗

#### ▼ role



Choose...



Author x

[related authority \(name title or uniform title\)](#)

✓ **contribution**

✓ [Primary Contribution](#)

[primary contributor](#)

✓ [role](#)

[Contribution](#)

[title information](#)

[Authorized Access Point for the Work](#)

✓ [classification numbers](#)

[original language \(language of Representative Expression\)](#)

[origin date](#)

[place of origin](#)

[geographic coverage of the content](#)

[temporal coverage of the content](#)

✓ [subjects](#)

[genre/form](#)

[contents](#)

[note](#)

✓ [admin metadata](#)

✓ [type](#)

contribution

Primary Contribution

[+ Add another](#)

▼ [primary contributor](#) ⓘ

Person

[+ Add another](#)

▼ [search](#)

Read, Piers Paul

ä

Lookup

Add new literal: Read, Piers Paul

x

LOC person [names (rwo)] (QA) (1)

Read, Piers Paul, 1941-

Birth date: (edtf) 1941-03-07

Occupation: Novelists, Historians, Biographers

Birth place: Beaconsfield (England)

VIAF match: <http://viaf.org/viaf/sourceID/LC%7Cn+50000841#skos:Concept>

Citation note: (Piers Paul Read FRSL (born 7 March 1941 in Beaconsfield, Buckinghamshire) is an award-winning English novelist, historian and biographer.)

Citation source: His Game in heaven with Tussy Marx, 1966., Wikipedia, Dec. 2, 2016

▼ [Authorized Access Point](#) ⓘ

Authorized Access Point

ä

Corporate Body

[+ Add another](#)

[+ Add search](#)

[+ Add Authorized Access Point](#) ⓘ

Conference

[+ Add another](#)

[+ Add search](#)

[+ Add Authorized Access Point](#) ⓘ

The author appears in the results as structured data. Click on the name.

[related authority \(name title or uniform title\)](#)

✓ contribution

✓ Primary Contribution

✓ primary contributor

✓ role

Contribution

[title information](#)

[Authorized Access Point for the Work](#)

✓ [classification numbers](#)

[original language \(language of Representative Expression\)](#)

[origin date](#)

[place of origin](#)

[geographic coverage of the content](#)

[temporal coverage of the content](#)

✓ [subjects](#)

[genre/form](#)

[contents](#)

[note](#)

✓ [admin metadata](#)

✓ [type](#)

contribution

Primary Contribution

+ Add another

▼ primary contributor ⓘ



Person

+ Add another

▼ search



Enter lookup query

ä

Lookup

Read, Piers Paul, 1941-



Once selected, the entity is displayed in the form.

▼ Authorized Access Point ↗



Authorized Access Point

ä

Corporate Body

+ Add another

+ Add search

+ Add Authorized Access Point ↗

Conference

+ Add another

+ Add search

+ Add Authorized Access Point ↗

Family

+ Add another

+ Add search

+ Add Authorized Access Point ↗

▼ role



Choose...



Author x

[related authority \(name title or uniform title\)](#)

✓ **contribution**

✓ **Primary Contribution**

primary contributor

✓ **role**

[Contribution](#)

[title information](#)

[Authorized Access Point for the Work](#)

✓ **classification numbers**

[original language \(language of Representative Expression\)](#)

[origin date](#)

[place of origin](#)

[geographic coverage of the content](#)

[temporal coverage of the content](#)

✓ **subjects**

[genre/form](#)

[contents](#)

[note](#)

✓ **admin metadata**

✓ **type**

contribution

Primary Contribution

+ Add another

▼ primary contributor ⓘ



Person

+ Add another

▼ search



Caperucita Roja

ä

Lookup

Add new literal: Caperucita Roja

x

LOC person [names (rwo)] (QA) (0)

No results

> Authorized Access Point ⓘ



If the person is not registered in the lookup source, the name can be added as a string literal by clicking on "Authorized Access Point."

Corporate Body

+ Add another

+ Add search

+ Add Authorized Access Point ⓘ

Conference

+ Add another

+ Add search

+ Add Authorized Access Point ⓘ

Family

+ Add another

+ Add search

+ Add Authorized Access Point ⓘ

▼ role



Choose...



Author x

[related authority \(name title or uniform title\)](#)

✓ **contribution**

✓ Primary Contribution

✓ primary contributor

✓ role

Contribution

[title information](#)

[Authorized Access Point for the Work](#)

✓ [classification numbers](#)

[original language \(language of Representative Expression\)](#)

[origin date](#)

[place of origin](#)

[geographic coverage of the content](#)

[temporal coverage of the content](#)

✓ [subjects](#)

[genre/form](#)

[contents](#)

[note](#)

✓ [admin metadata](#)

✓ [type](#)

contribution

Primary Contribution

+ Add another

▼ primary contributor ⓘ

Person

+ Add another

▼ search

Enter lookup query

ä

Lookup

▼ Authorized Access Point ↗

Authorized Access Point

Caperucita Roja ×

Edit

Language: English



Name recorded as a literal.

Corporate Body

+ Add another

+ Add search

+ Add Authorized Access Point ↗

Conference

+ Add another

+ Add search

+ Add Authorized Access Point ↗

Family

+ Add another

+ Add search

+ Add Authorized Access Point ↗

▼ role

Choose...

Author ×



# Sinopia: Work (*RDA Expression*)

Name in Sinopia	MARC 21 Codes
contribution	7XX
title information	240
summary	520
content type	336
language	008:35-37, 041, 546\$a
origin date	008:7-14, 046, 26X\$c
script	546\$b
illustrative content	008:18-21, 006:01-04, 300\$b
admin metadata	cabecera, 005, 040, etc.

Yale Monograph RDA Work (CtY) x

Yale Monograph Expression (CtY)

Yale Monograph Manifestation (CtY) x

Yale Monograph Item (CtY) x

## Yale Monograph Expression (CtY)

expression of (link to RDA Work)

[related resource \(Event, Work, Expression\)](#)

[related authority \(name title or uniform title\)](#)

[contribution](#)

[Contribution](#)

[title information](#)

[Authorized Access Point for the Expression](#)

[summary](#)

content type

[language](#)

[origin date](#)

[script](#)

[illustrative content](#)

[color content](#)

expression of (link to RDA Work) \*

[or](#) [Lookup](#)

Alive, The Story of the Andes Survivors

related resource (Event, Work, Expression)

Relationship

[+ Add another](#)

[+ Add relationship](#)

[+ Add RDA relationship term](#)

[+ Add target resource](#)

[+ Add note](#)

related authority (name title or uniform title)

Enter a URI



# Sinopia: Instance (*RDA Manifestation*)

Name in Sinopia	MARC 21 Codes
identifiers	020, 022
title information	245\$a, etc.
statement of responsibility	245\$c
publication, etc.	26X
transcribed publication, etc.	26X
extent	300\$a
dimensions	300\$c
admin metadata	cabecera, 005, 040, etc.

# Sinopia: Item (*RDA Item*)

Name in Sinopia	MARC 21 Codes
held by	
item identifiers	
Voyager location code	852 (holdings data)
lending information	
custodial history	561 (bibliographic or holdings data)
contribution	5XX (bibliographic) or other local fields
enumeration and chronology	863-865 (holdings data)
admin metadata	leader, 005, 040, etc.

# Challenges and Next Steps

- Sinopia is still in development.
- To see the real benefits of linked data, a greater level of integration into core workflows is needed.
- Transitioning from a model of individual MARC records to a new model based on linked data will take time.
- Making this transition requires investments in resources, staff, and training.

# Conclusions

- BIBFRAME represents a more flexible and extensible approach to cataloging.
- However, adapting to new tools, such as Sinopia, requires significant effort.
- We observed that it took almost twice as long to catalog a resource in Sinopia than in MARC 21.
- To advance in the implementation of better, more useful metadata, everyone needs to work together, across institutions.



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**THANK YOU FOR LISTENING!**

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