

THE ZERI

PHOTO ARCHIVE

TO LINKED  
OPEN DATA

## **MEMORIAV**

LE PATRIMOINE

PHOTOGRAPHIQUE

A L'ERE NUMERIQUE

15-16 novembre 2018

Lausanne / IDHEAP - Unil

**MARILENA**

**DAQUINO**

University of Bologna

marilena.daquino2@unibo.it

@emmedaquino

# OUTLINE

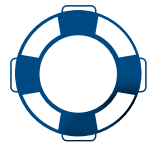


## PHOTO ARCHIVES

[some] problems with data



## ZERI PHOTO ARCHIVE



## LINKED OPEN DATA

approaches & benefits



## ZERI & LOD

LOD for photo archives

## COMMUNICA- TION

### STANDARDS

every institution adopts national / community / technological standards that fit-for-purpose. Sharing requires a lot of effort.

## VISIBILITY & ACCESS

### NOT INTEGRATED

users are lazy, they need

to consult heterogeneous information and they want everything in one place.

### PROPRIETARY SOFTWARE

sometimes not even cataloguers can access their own data and reuse them in other contexts.

## CATALOGUING PROCESS

### NOT UPDATED

the cataloguing process is an expensive and time-con-

suming activity. Data may be affected by information quality issues over time.

### MISSING/PARTIAL

missing/partial information can affect the reliability of an institution and draw people to look somewhere else for more complete information.

## COMMON PROBLEMS IN GLAMs

# EXPECTATIONS

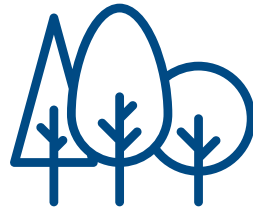


users easily discover  
your website

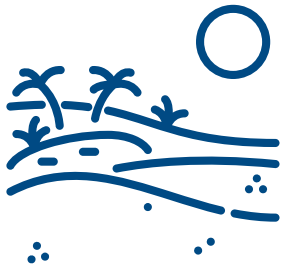


users can find what they are looking for  
(even when they do not know what it is)

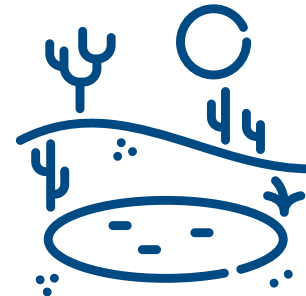
users retrieve  
more information  
than they expected  
(serendipity)



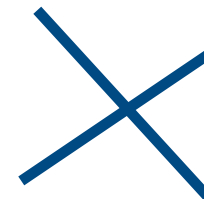
users can answer  
complex research  
questions



users look for other information  
clearly connected to the original  
source (follow your nose)



users can formulate  
new hypotheses



# REALITY

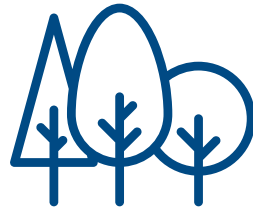


only experts know  
how to find you

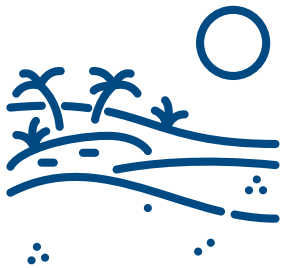


users do not understand whether you  
have what they are looking for or not

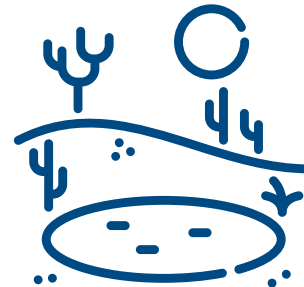
users cannot use  
properly aid tools  
you give them



users  
get frustrated



users do not know how  
you organised your knowledge  
and what they  
can discover



users search  
in Google



## THE ZERI PHOTO ARCHIVE

- an art historical photo archive
- the bequest of Federico Zeri to the University of Bologna
- a strong focus on subjects (artworks)
- the first Italian photo archive creating detailed LOD

<http://data.fondazionezeri.unibo.it>



WHAT ARE LOD

AND WHAT THEY CAN DO FOR

PHOTO ARCHIVES

# ANONYMOUS, PERUZZI BALDASSARRE

- SEC. XVI - TRE GRAZIE

OBJECT	
Object	positivo
Number of elements	1
Type	m
BW/C - Material and technique	BN - gelatina ai sali d'argento/ carta baritata
Dimensions	mm 237 × 160 (supporto primario)

SUBJECT / TITLE	
Subject	Tre Grazie — dipinto murale
Artist / Milieu	Peruzzi Baldassarre
Attributed title	Peruzzi Baldassarre - sec. XVI - Tre Grazie
Source of title	del catalogatore
Detail / Whole	insieme

PHOTOGRAPHER	
Author	Anonimo
Reason for attribution	n.r.

AUTHOR	
Author	Peruzzi Baldassarre <small>(ULAN) (DBPEDIA)</small>
Personal data	1481/ 1536
Reason for attribution	Bibliografia

DIFFERENT ATTRIBUTIONS	
Author	Luini Bernardino, scuola <small>(VIAF) (ULAN) (L)</small>
Reason for attribution	Asta Christie's (1994)

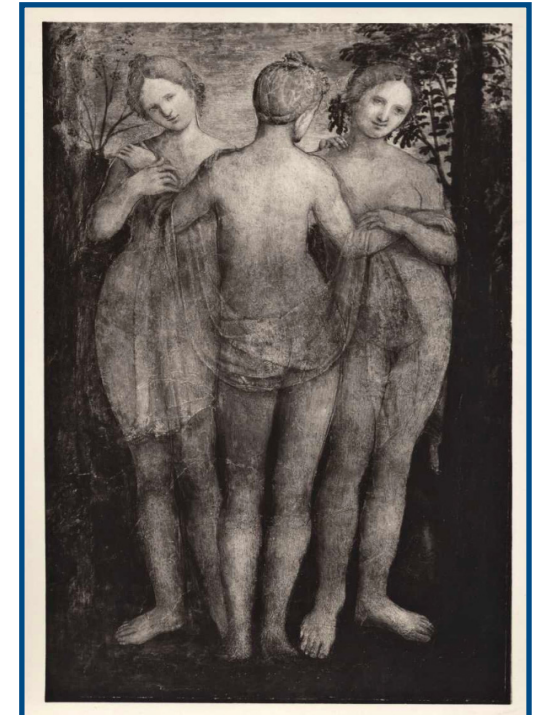
  

DATING	
Century	sec. XVI
Dates (from – to)	1500 - 1535

LOCATIONS	
Last known	Asta Christie's, New York (NY) (New York)
Precise location	18 maggio 1994, n. 206

# THE WEB WE KNOW



the online cataloguing record  
of a photograph @Zeri

the online cataloguing record  
of the artwork depicted in a  
photograph @Zeri

an image attached  
to the record

*web documents linked together by means of hyperlinks*



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Reason for attribution	Asta Christie's (1994)

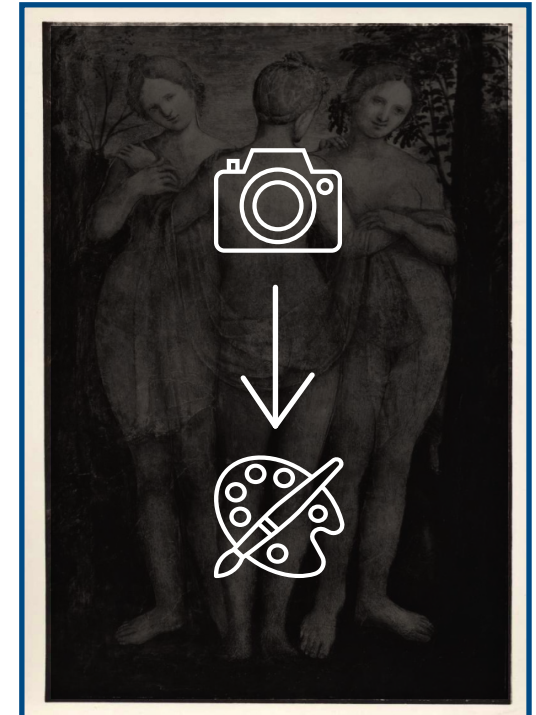
  

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## THE SEMANTIC WEB



a photograph depicting  
an artwork

*machine-readable data linked by meaningful relations*

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- SEC. XVI - TRE GRAZIE

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Attributed title	Peruzzi Baldassarre - sec. XVI - Tre Grazie
Source of title	del catalogatore
Detail / Whole	insieme

PHOTOGRAPHER	
Author	<a href="#">Anonimo</a>
Reason for attribution	n.r.

AUTHOR	
Author	<a href="#">Peruzzi Baldassarre</a> <small>(ULAN) (DBPEDIA)</small>
Personal data	1481/ 1536
Reason for attribution	Bibliografia

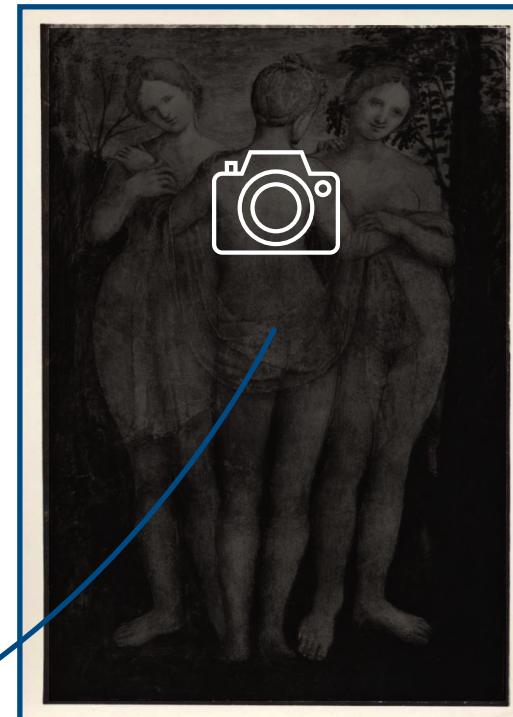
DIFFERENT ATTRIBUTIONS	
Author	<a href="#">Luini Bernardino, scuola</a> <small>(VIAF) (ULAN) (L)</small>
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the photograph is taken by an anonymous photographer

*machine-readable data linked by meaningful relations*

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- SEC. XVI - TRE GRAZIE

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AUTHOR	
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Personal data	1481/ 1536
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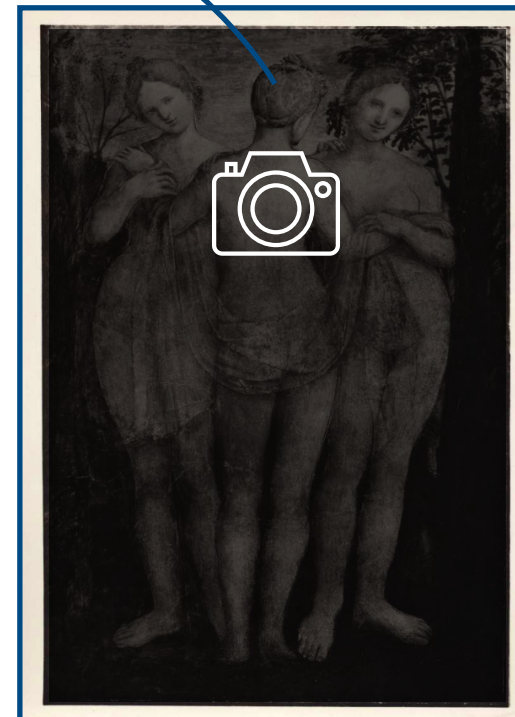
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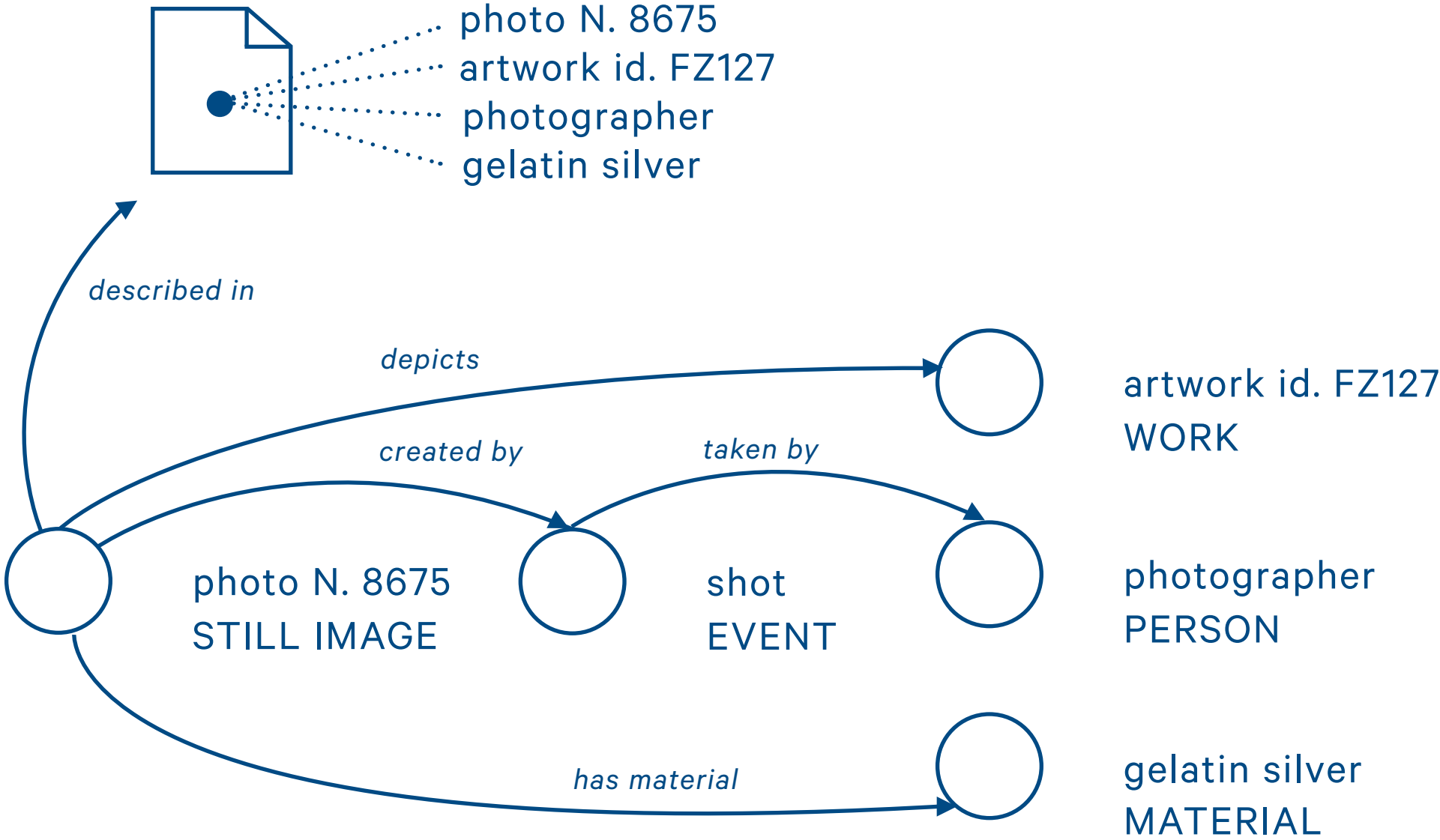


the photograph is a gelatine  
silver print

*machine-readable data linked by meaningful relations*

# THE RDF MODEL

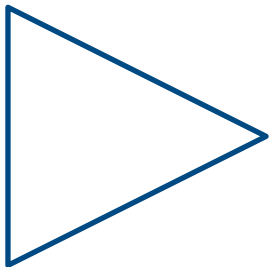
from a flat/ tree data structure to a graph representation



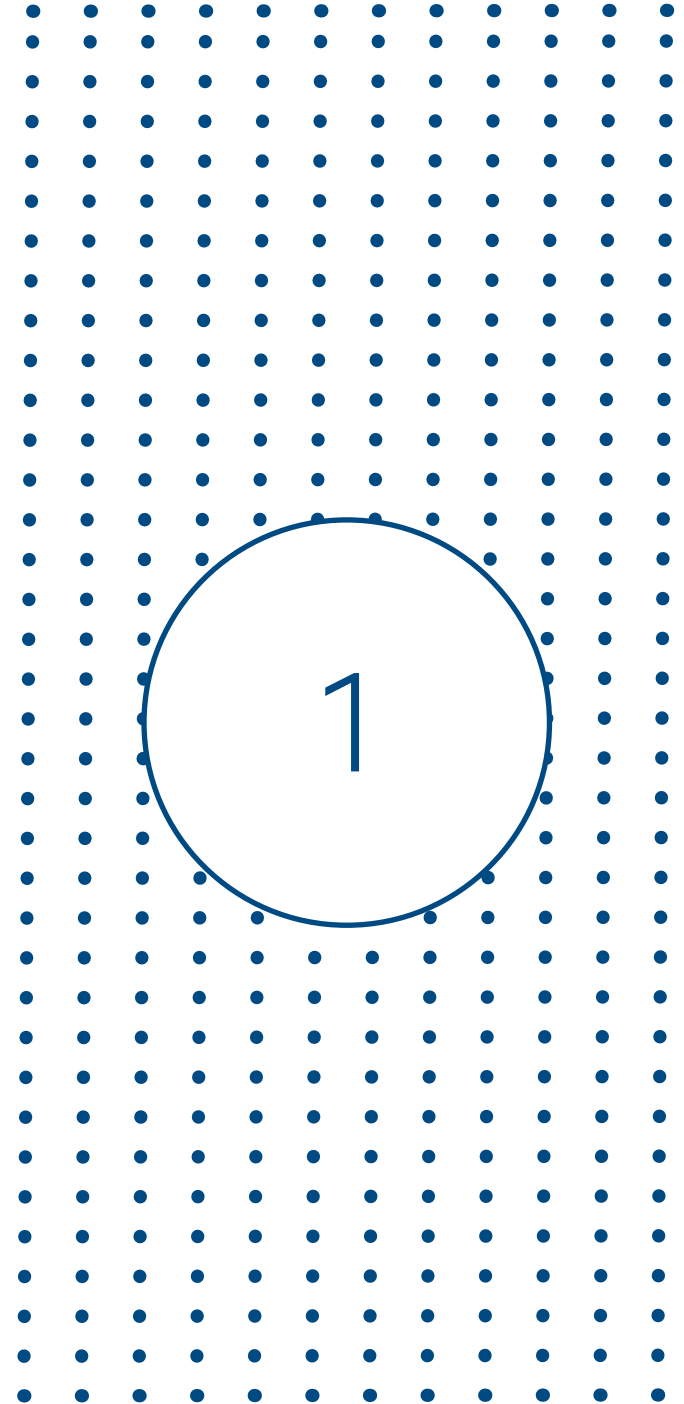
# IDENTIFY

persistent URIs for identifying  
concepts rather than documents

e.g. people, objects, materials, titles, subjects



CONSISTENCY ACROSS  
INSTITUTIONS



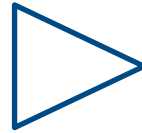


REUSE TERMS FROM SHARED VOCABULARIES

# THESAURI

## ICONCLASS, AAT

identify subjects, materials, techniques



## MULTILINGUISM

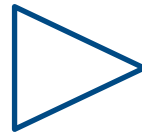
**e.g. gelatin silver print**

<http://vocab.getty.edu/aat/300128695>

# AUTHORITIES

## ULAN, VIAF, TGN, geoNames

people, places, subjects again

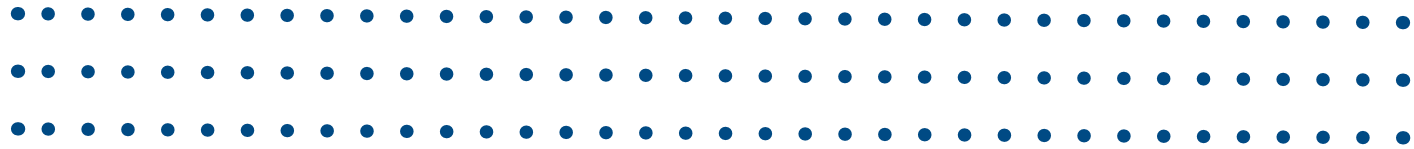


## DISAMBIGUATION

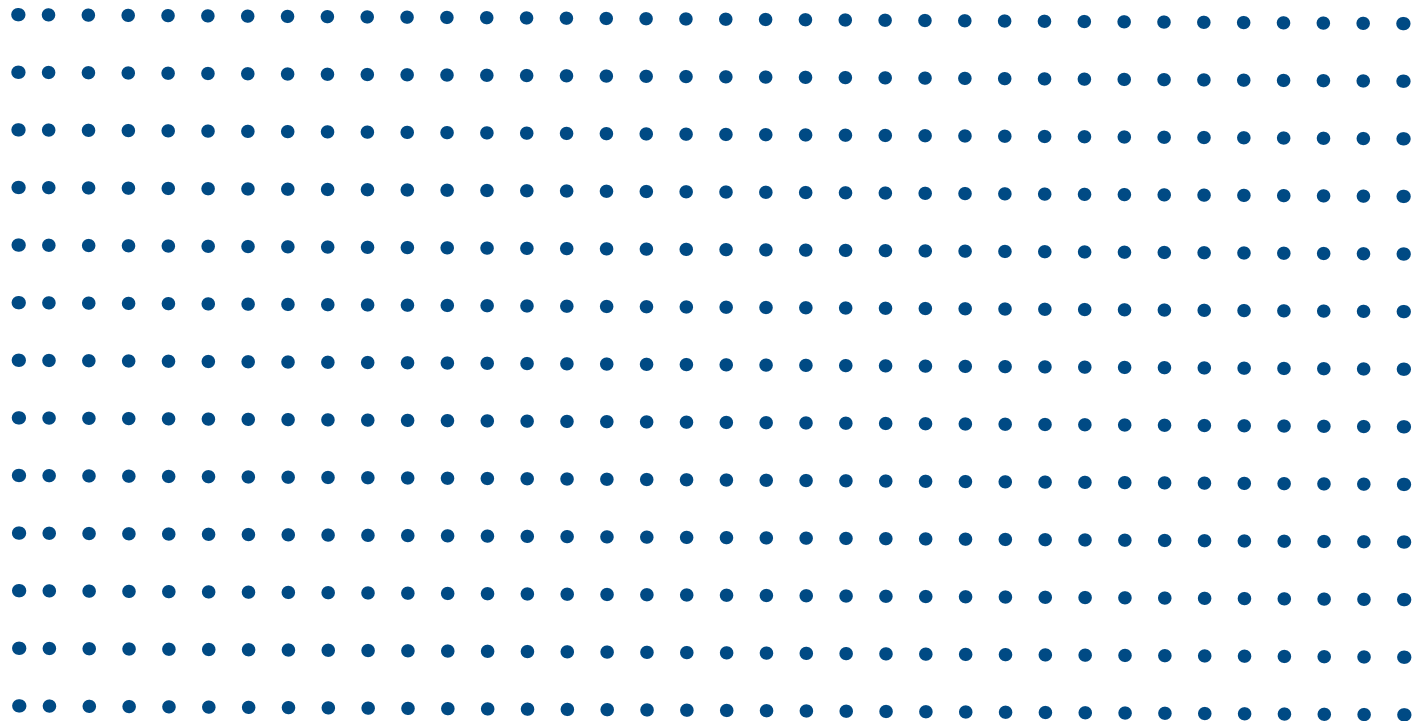


**e.g. Oxford (1 out of 17)**

<http://www.geonames.org/2640729>



ALIGN RECORDS BETWEEN DATA SOURCES

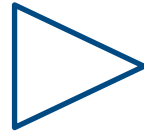




# DATASETS

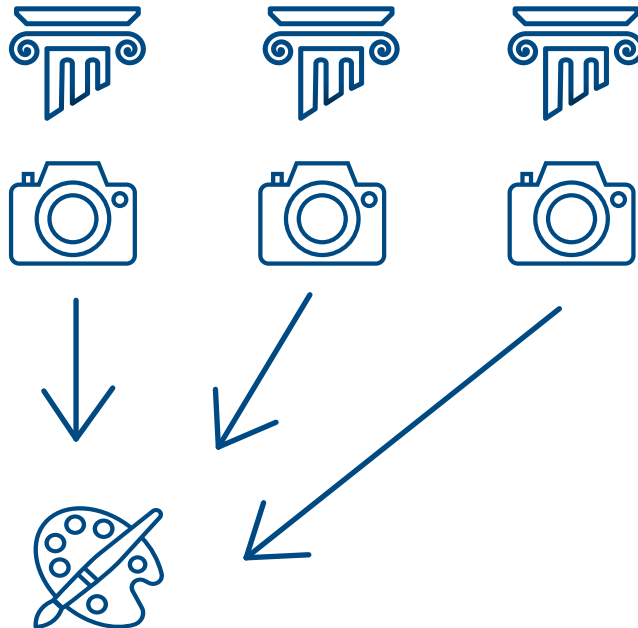
- *open data now!*

WIKIDATA, DBPEDIA, others  
link same objects in different places



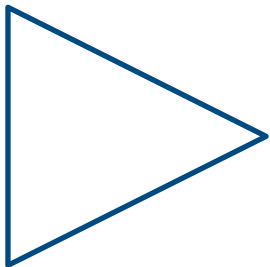
## RECONCILIATION

**e.g. “Peruzzi Baldassarre, Three Graces”**  
in Zeri photo archive, Berenson Library, Frick  
Art Reference Library



# INTEGRATE

semantic and technical interoperability allows to aggregate data sources

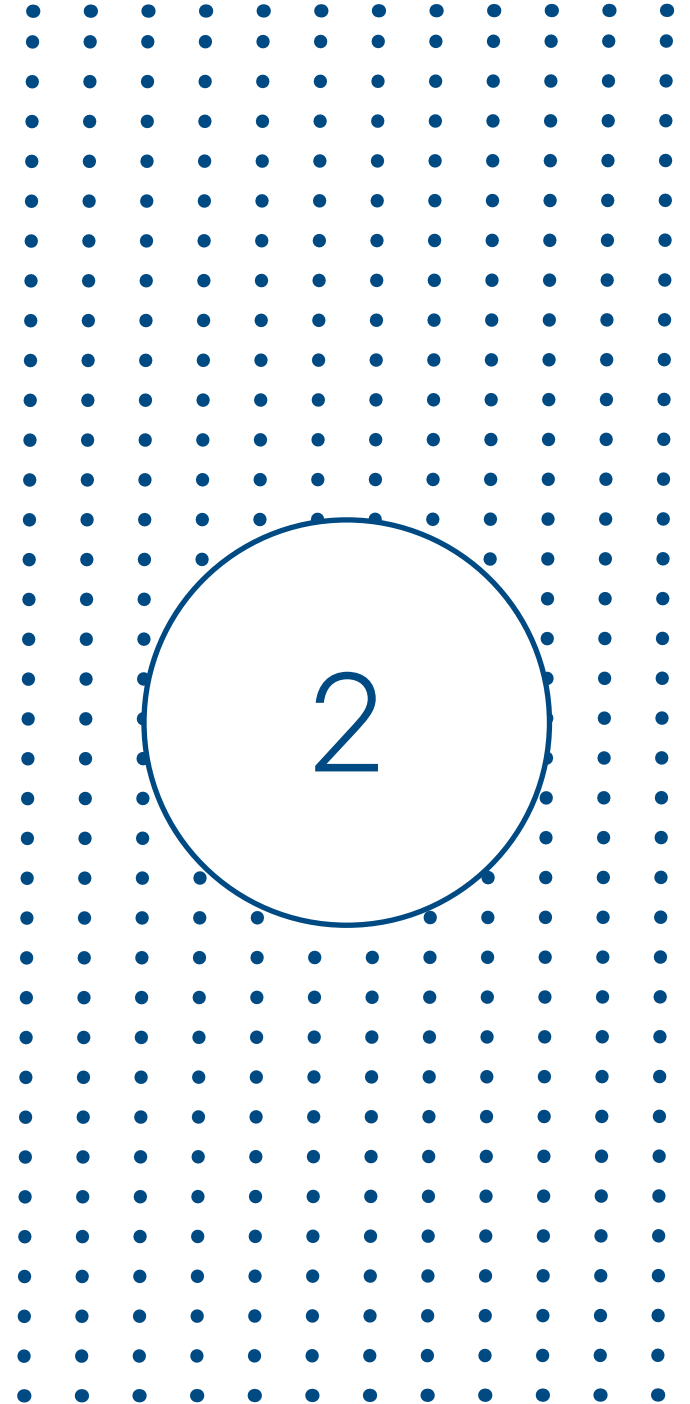


INFORMATION QUALITY

ISSUES

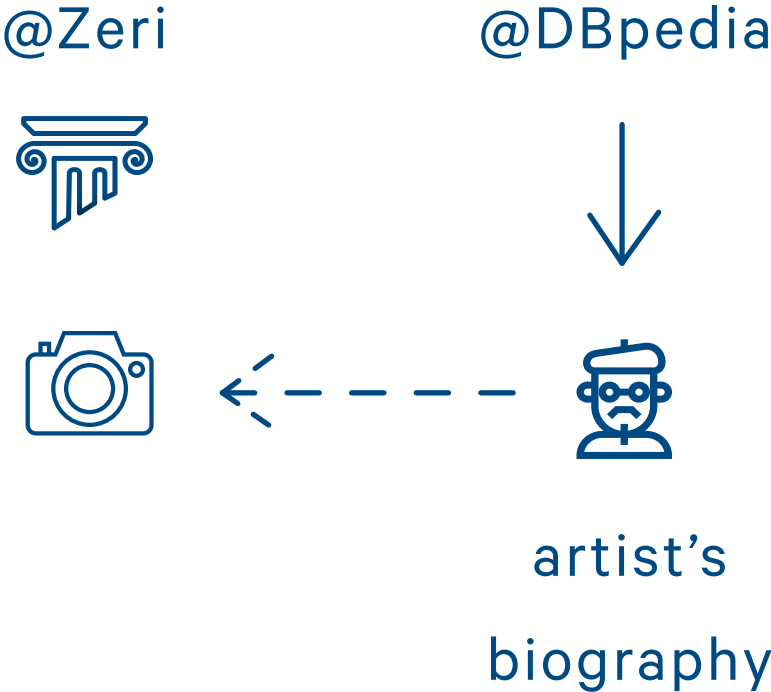
VISIBILITY

2



# ENRICHMENT

gather data from other sources  
and save time



**Baldassarre Peruzzi**  
[http://dbpedia.org/resource/Baldassare\\_Peruzzi](http://dbpedia.org/resource/Baldassare_Peruzzi)

Baldassare Tommaso Peruzzi (7 March 1481 – 6 January 1536) was an Italian architect and painter, born in a small town near Siena (in Ancaiano, frazione of Sovicille) and died in Rome. He worked for many years with Bramante, Raphael, and later Sangallo during the erection of the new St. Peter's. He returned to his native Siena after the Sack of Rome (1527) where he was employed as architect to the Republic. For the Siennese he built new fortifications for the city and designed (though did not build) a remarkable dam on the Bruna River near Giuncarico. He seems to have moved back to Rome permanently by 1535.

@en

# CURATION

compare data sources to update data  
and speed-up the cataloguing process

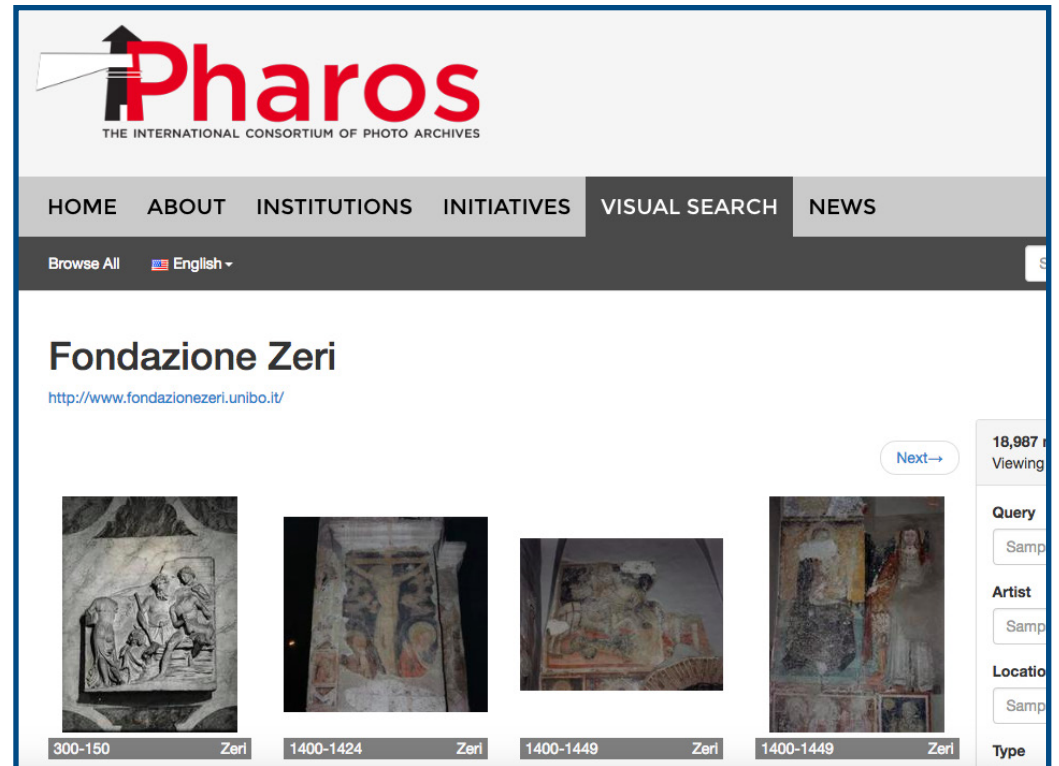
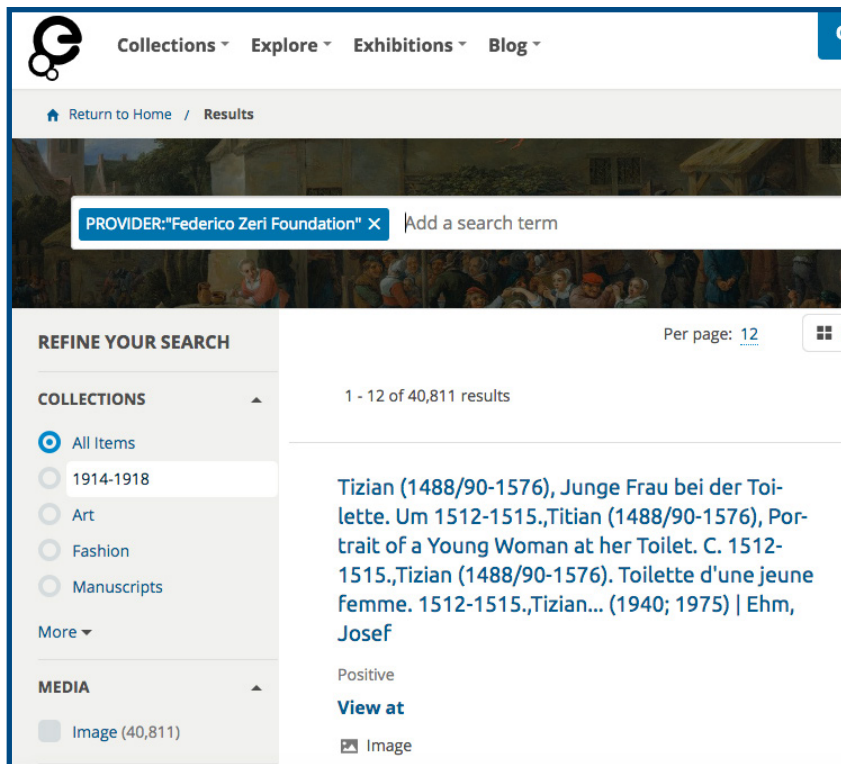
The screenshot displays the mAuth website interface. On the left, a dark gallery image of a classical interior is overlaid with the text: "Mining Authoritativeness in Art History" and "A CRAWLER OF AUTHORSHIP ATTRIBUTIONS". The top left corner shows the "mAuth" logo. The main content area features a central image of a painting, "La Schiavona" by Titian, with navigation arrows and a small carousel of thumbnails below it. To the right of the image, there are four attribution cards for different sources:

- Vecellio Tiziano** (14.0): Zeri Foundation (University of Bologna) accepted attribution (3 hearts).  
artwork title: *Vecellio Tiziano, Ritratto di gentildonna*  
date(s) of attribution: none;  
criteria: artist's signature;  
source of attribution: none;  
[see more](#)
- Titian** (4.0): Wikidata accepted attribution (3 hearts).  
artwork title: *La Schiavona by Titian*  
date(s) of attribution: 2018;  
criteria: none;  
source of attribution: none;  
[see more](#)
- Titian** (3.0): DBpedia accepted attribution (3 hearts).
- Tiziano Vecellio** (3.0): Italian DBpedia accepted attribution (3 hearts).

harvester of authorship attributions from photo archives

# AGGREGATION

create several access points to your data and increase discoverability of collections

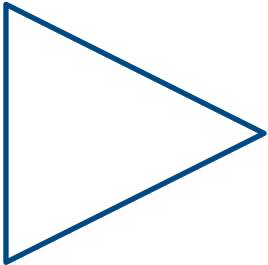


Europeana includes  
Zeri's LOD

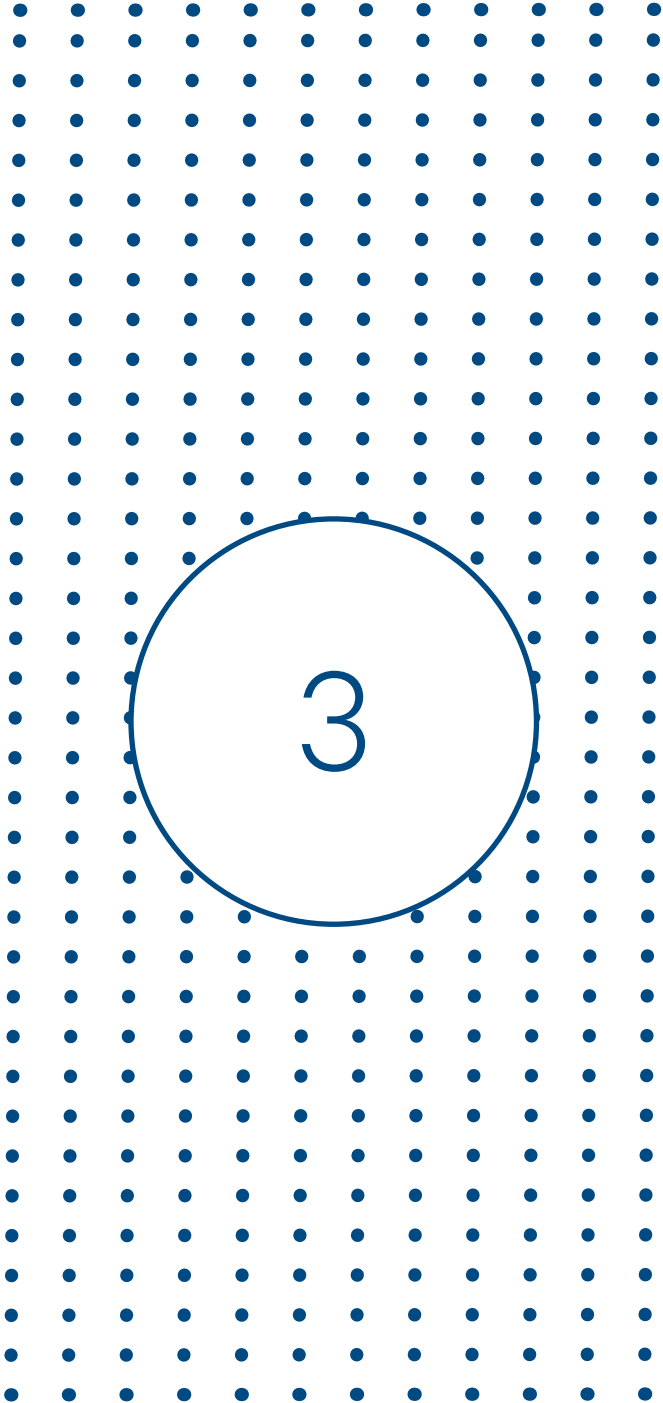
PHAROS includes Zeri's images and  
will include Zeri's LOD

CREATE

develop expressive services  
and discover latent knowledge



ANSWER SOPHISTICATED  
QUESTIONS



# REUSE

mix data from different sources  
to create new applications



The screenshot shows the website for the Pinacoteca nazionale di Bologna. At the top left is the logo for 'dati.beniculturali.it'. The main heading is 'Pinacoteca nazionale di Bologna' with the URL 'http://dati.beniculturali.it/mibact/luoghi/resource/CulturalInstituteOrSite/20150'. Below this, there is a section for 'rdfs:comment' with language options 'EN' and 'IT'. The Italian comment describes the museum's history, its collection of European art, and its location in the former Jesuit novitiate of Sant'Ignazio.

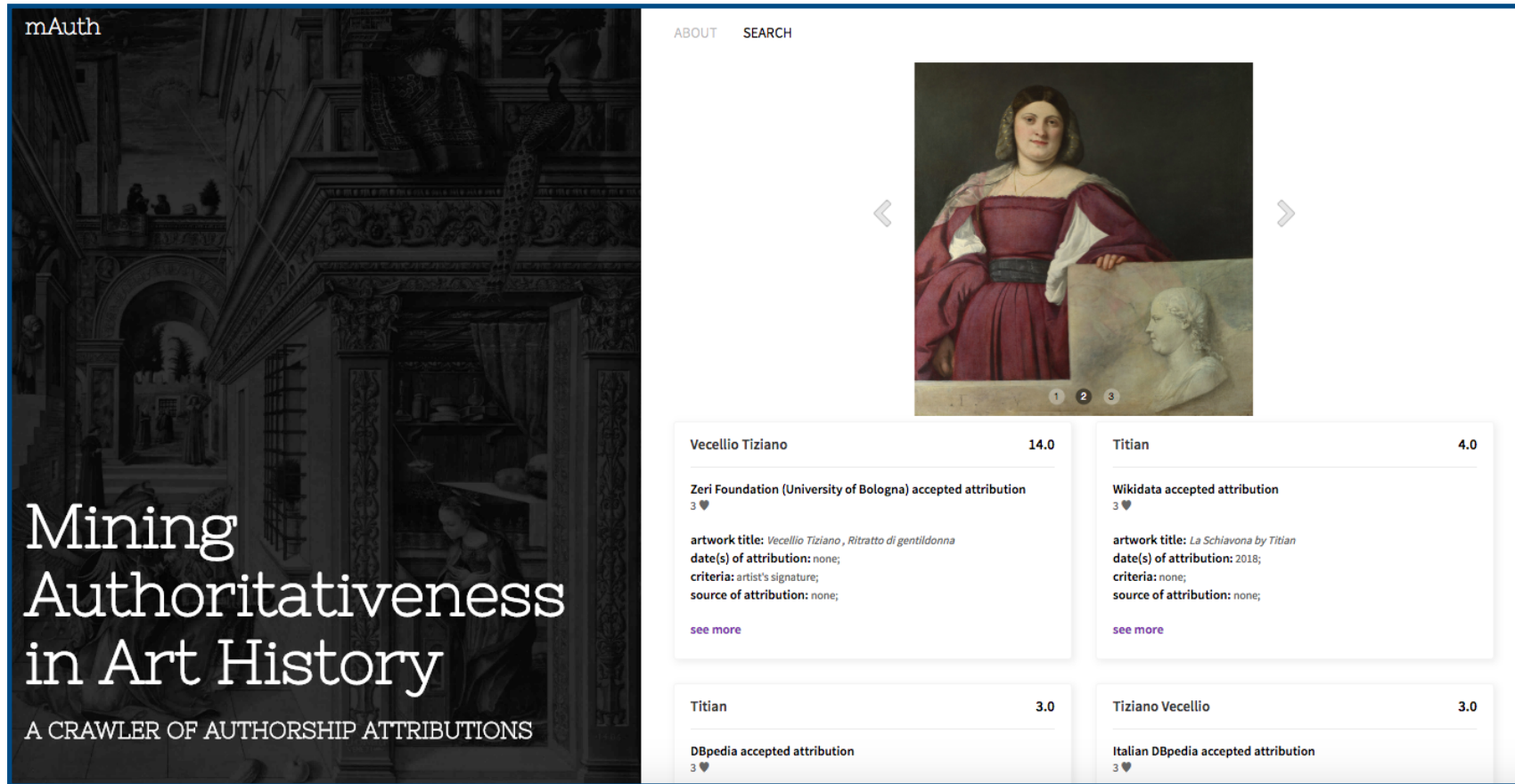
Italian Ministry  
of Cultural Heritage  
reuses Zeri's data

```
owl:sameAs      <http://it.dbpedia.org/resource/Pinacoteca_nazionale_(Bologna)>
-----
<http://dati.culturaitalia.it/resource/actor/pinacoteca-nazionale-di-bologna>
-----
<https://w3id.org/zericatalog/pinacoteca-nazionale-bologna>
-----
<http://dati.emilia-romagna.it/id/ibc/IT-ER-BO090>
```

psss! we can reuse their data  
as well!

# MASHUP

mix data from different sources  
to create new applications



The screenshot displays the mAuth application interface. On the left, a dark gallery image serves as a background for the text: "Mining Authoritativeness in Art History" and "A CRAWLER OF AUTHORSHIP ATTRIBUTIONS". The main content area features a central image of a painting, "La Schiavona" by Titian, with navigation arrows and a small carousel indicator below it. Below the image, four attribution cards are displayed in a grid. Each card shows the artist's name, a score, the source of attribution, and a "see more" link.

Artist	Score	Source of Attribution
Vecellio Tiziano	14.0	Zeri Foundation (University of Bologna) accepted attribution
Titian	4.0	Wikidata accepted attribution
Titian	3.0	DBpedia accepted attribution
Tiziano Vecellio	3.0	Italian DBpedia accepted attribution

provide tools for supporting the decision-making process  
of users



# INFERENCE

reuse internal (or external)\*  
information for making new  
hypotheses



identify photographers' names in time  
in the Zeri's authority file

<https://w3id.org/zericatalog/name/anderson-roma/1853-1960>  
<https://w3id.org/zericatalog/name/james-anderson/1853-1877>  
<https://w3id.org/zericatalog/name/stab-d-anderson/1877-1938>  
<https://w3id.org/zericatalog/name/d-anderson/1877-1938>  
<https://w3id.org/zericatalog/name/guglielmo-anderson/1938-1960>  
<https://w3id.org/zericatalog/name/alessandro-anderson/1938-1960>  
<https://w3id.org/zericatalog/name/giorgio-anderson/1938-1960>

define rules for automatically  
attributing the date of a **new**\* photo  
recording one of those forms of name



## CONCLUSION

### EXCHANGE AND CREATE KNOWLEDGE

#### LINKED **OPEN** DATA

- 1 leverage external sources for your purpose
- 2 facilitate other to reuse your data > gain visibility
- 3 discover new knowledge

THANKS

**MEMORIAV**

LE PATRIMOINE

PHOTOGRAPHIQUE

A L'ERE NUMERIQUE

15-16 novembre 2018

Lausanne / IDHEAP - Unil

**MARILENA**

**DAQUINO**

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@emmedaquino