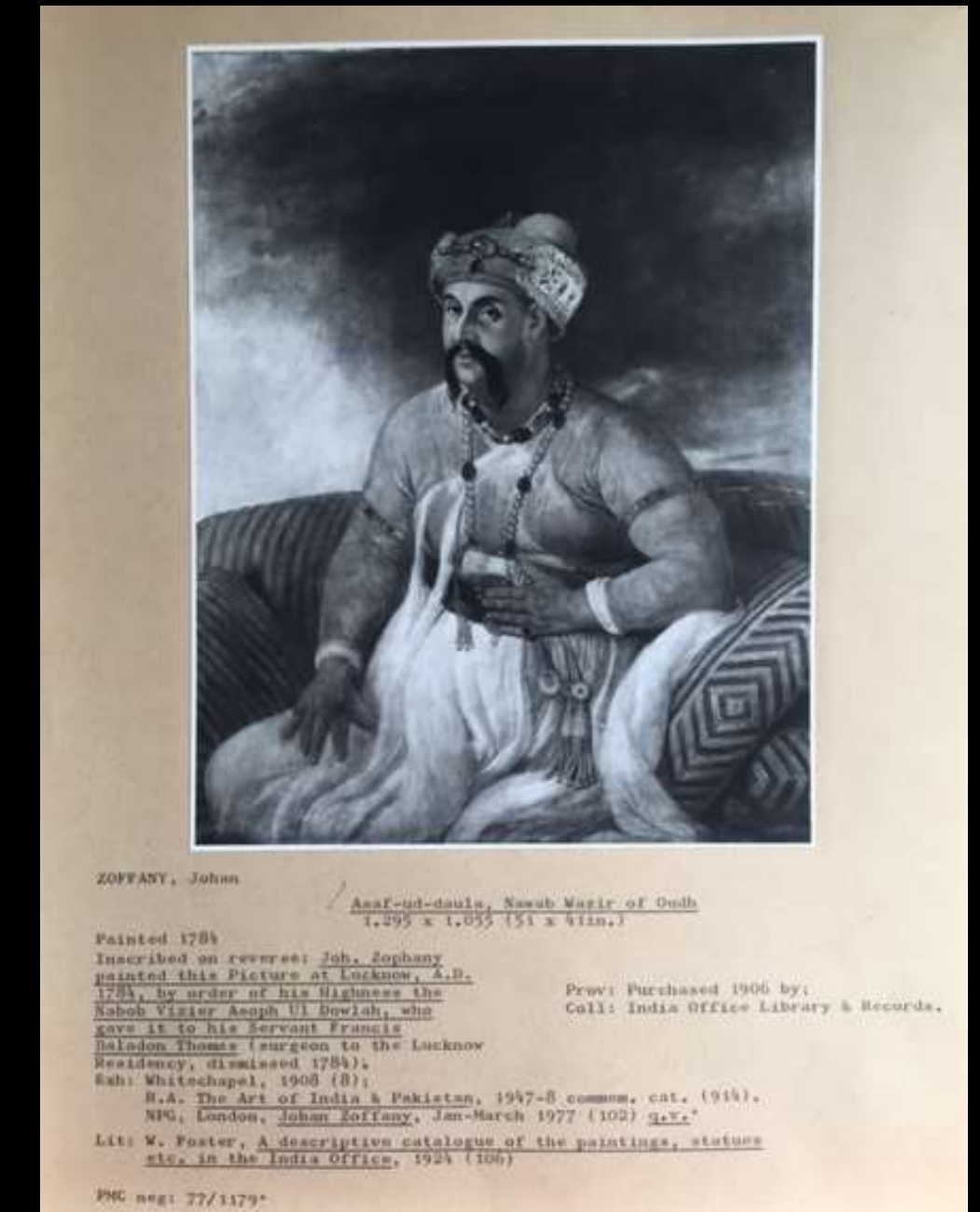


# International Image Interoperability Framework Three Case Studies - #CIDOC2017 Panel



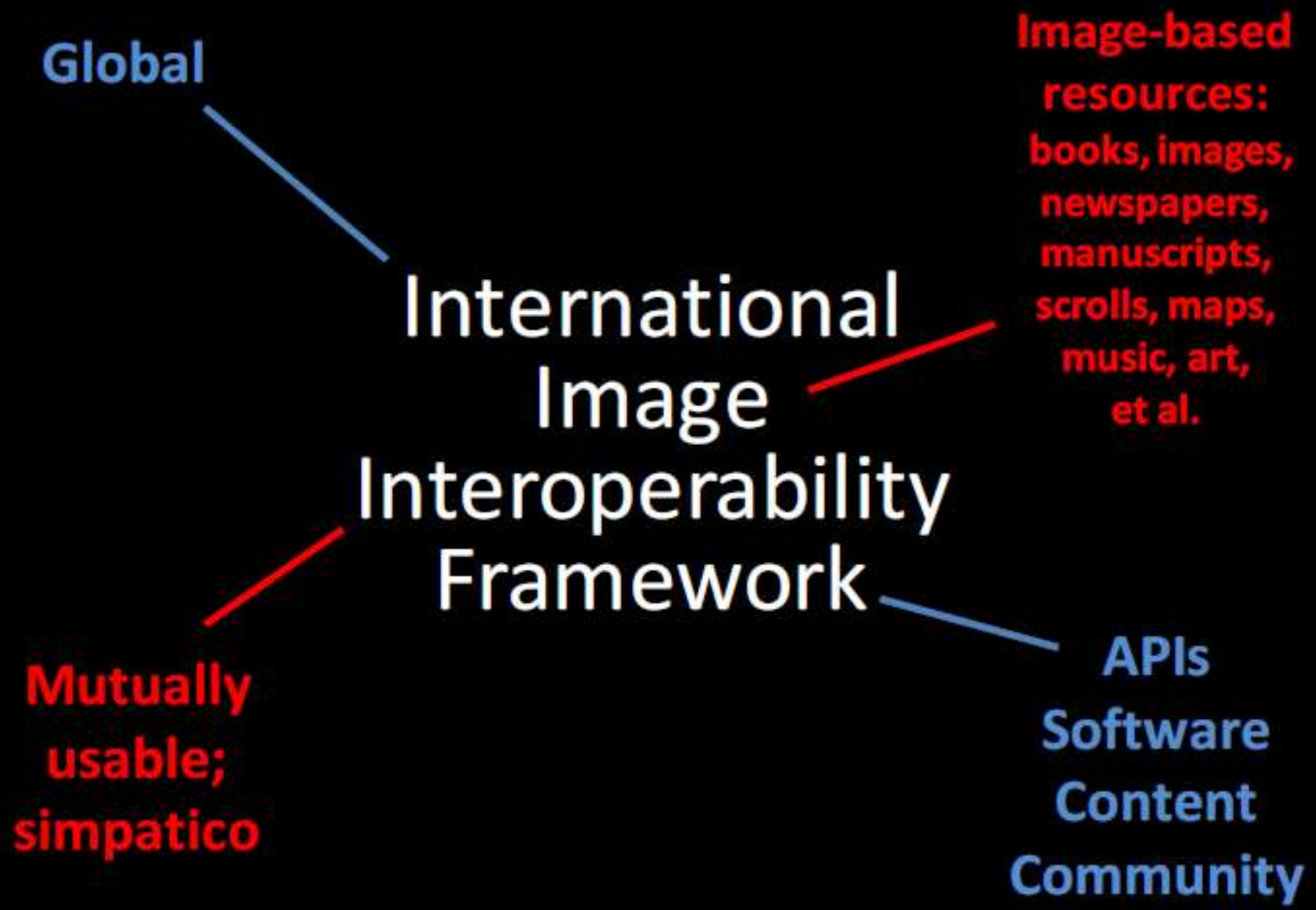
Emmanuelle Delmas-Glass, Collections Data Manager, Yale Center for British Art, USA

Claire Knowles, Library Digital Development Manager, University of Edinburgh, UK

Dieter van Hassel, Info. Manager, Royal Museum for Central Africa, Tervuren, Belgium

Tom Scutt, Digital Manager, Paul Mellon Centre, London, UK





# Images are fundamental information carriers for cultural heritage



day was a big happy Mel  
overanxious to please.  
XXXXXXXXXXXXXXX several  
another wild day began.  
illed into that and took  
dy did the explaining--  
He stank. I found out w  
truck. Freddy always ha  
about things. He always  
go!" And he went. He



But image delivery is...

...too hard

...to slow

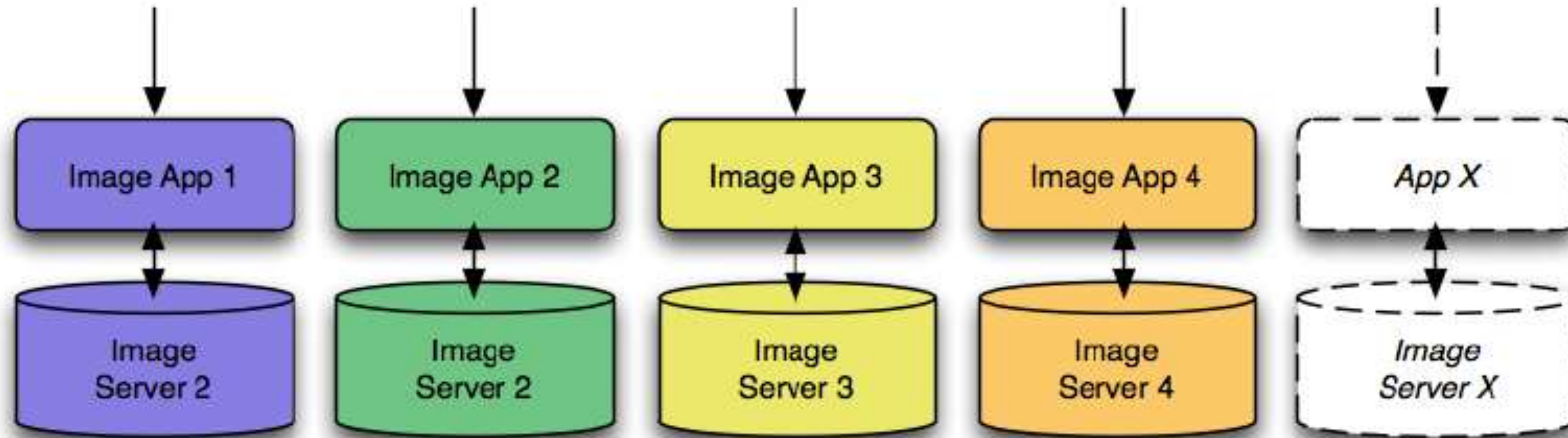
...idiosyncratic

...to disjointed

...too ugly

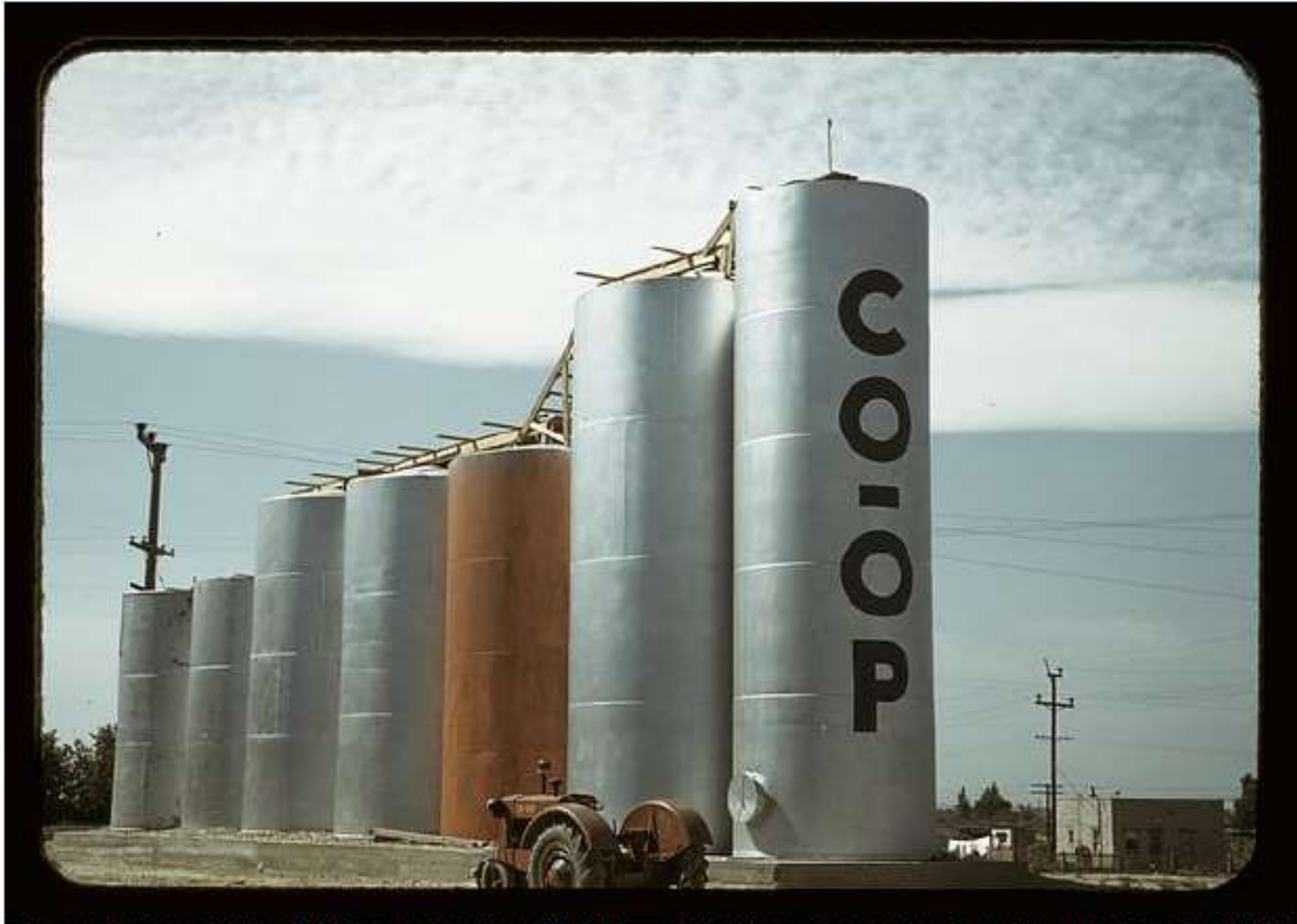
...and we all suffer because of it: users are isolated and institutions can't share easily, which is frustrating given the increasing volume of digital assets available

# A world of silos & duplication



- Every site a silo (→ no interoperability)
- Every app a one-off (→ overhead to code and keep)
- Every user forced to cope (→ many UIs, little integration)

# Welcome to Silo-ville



Grain elevators, Caldwell, Idaho, by Lee Russell, 1941. <http://www.loc.gov/pictures/resource/fsac.1a34206/>

# Researchers' requirements

- Image quality
- Manipulate images (deep zoom, image comparison,...)
- Collaborate with colleagues across the world (share images, annotate,...)
- Produce quality research





Dort or Dordrecht: The Dort packet-boat from Rotterdam becalm...

Inverary Pier, Loch Fyne: Morning



# Image comparison



Bring images from different collections together  
and annotate them



Le manuscrit 5 de la  
Bibliothèque municipale de  
Châteauroux, c. 1460

Folio in BVMM  
Miniature in the BNF



Virtually reconstitute works  
that have been cut



Biblissima: MSS of France  
<http://demos.biblissima-condorcet.fr/chateauroux/>

# Museums and funding institutions' requirements

- Stop funding/developing technological solutions for short lived projects/proprietary silos
- Invest in community developed standards and technology that leverage museums' digital assets and data (LIDO, CRM, IIF)
- Develop long term technological solutions that support the whole institution, not just projects
- Develop long term technological solutions that make the museum relevant in the network environment



**A Community**  
that develops **Shared APIs**,  
implements them in **Software**,  
and exposes interoperable **Content**

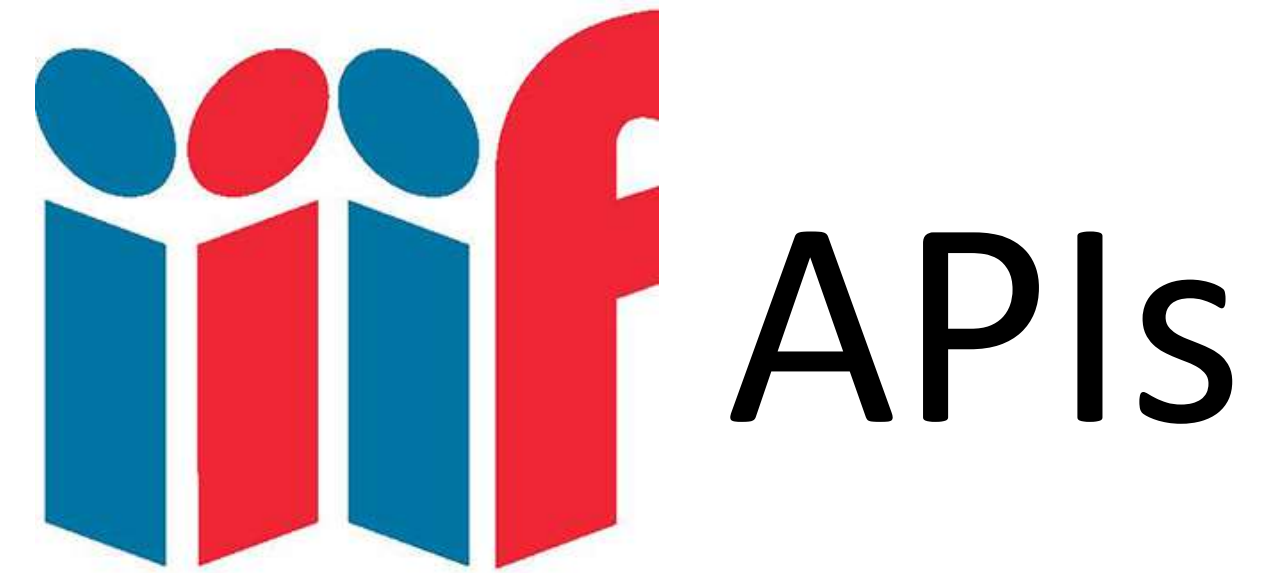
# In other words:



An open framework

for organizations to publish their image-based resources,  
to be viewed, cited, annotated, and more by any compatible  
image-viewing application

through a set of common application programming  
interfaces (API) that support interoperability between image  
repositories.



- **Image API 2.1:** gets the image pixels
- **Presentation API 2.1:** just enough metadata to drive a remote viewing experience
- **Search API 1.0:** search within an object, such as the full text of a book or newspaper
- **Authentication API 1.0:** to support login, and differential access to resources.
- **AV API (draft):** deliver timebased media (audio, video)

***APIs provide a structured way for connecting systems: <http://iiif.io>***

# Image + Presentation = Object

The screenshot shows a digital manuscript viewer interface. At the top, there is a browser tab with the title "MS Richardson 7. Houghton Library, Harvard University. Heures d...". Below the tab, there is a navigation bar with "Bookmark", "Options", and "Switch Workspace" buttons. The main content area is divided into two parts: a table of contents on the left and a detailed view of a manuscript page on the right. The table of contents is titled "Hours of the Cross (ff. 21-35)" and lists various sections: "Matins (ff. 21-23v)", "None (ff. 29-30v)", "Vespers (ff. 31-32v)", "Compline (ff. 33-35)", "Passion (ff. 35v-36v)", and "Hours of the Holy Spirit (ff. 37-46v)". A red box highlights the table of contents and the detailed view of the manuscript page. A blue box highlights the detailed view of the manuscript page, which shows a decorated initial "D" and the text "Dicit exaudi". A red box highlights a red box containing the text "Presentation API" and a list of features: "Title Label", "Structure (TOC)", and "Sequence". A blue box highlights a blue box containing the text "Image API" and a list of features: "Image Data". At the bottom, there is a thumbnail strip showing six small images of manuscript pages, labeled "f. 24v", "f. 25 Flag", "f. 25v", "f. 26", "f. 26v", and "f. 27".

MS Richardson 7. Houghton Library, Harvard University. Heures d...

Hours of the Cross (ff. 21-35)

- Matins (ff. 21-23v)
- None (ff. 29-30v)
- Vespers (ff. 31-32v)
- Compline (ff. 33-35)
- Passion (ff. 35v-36v)
- Hours of the Holy Spirit (ff. 37-46v)

**Presentation API**

- Title Label
- Structure (TOC)
- Sequence

**Image API**

- Image Data

f. 24v f. 25 Flag f. 25v f. 26 f. 26v f. 27



# Global Participation



# International Leaders

## Museums / Galleries

British Museum  
National Gallery of Art  
The J. Paul Getty Trust  
The Walters Art Museum  
Yale Center for British Art  
Et al.

## Aggregators

ARTstor  
CONTENTdm  
DPLA  
Europeana  
Internet Archive  
Wikimedia Foundation

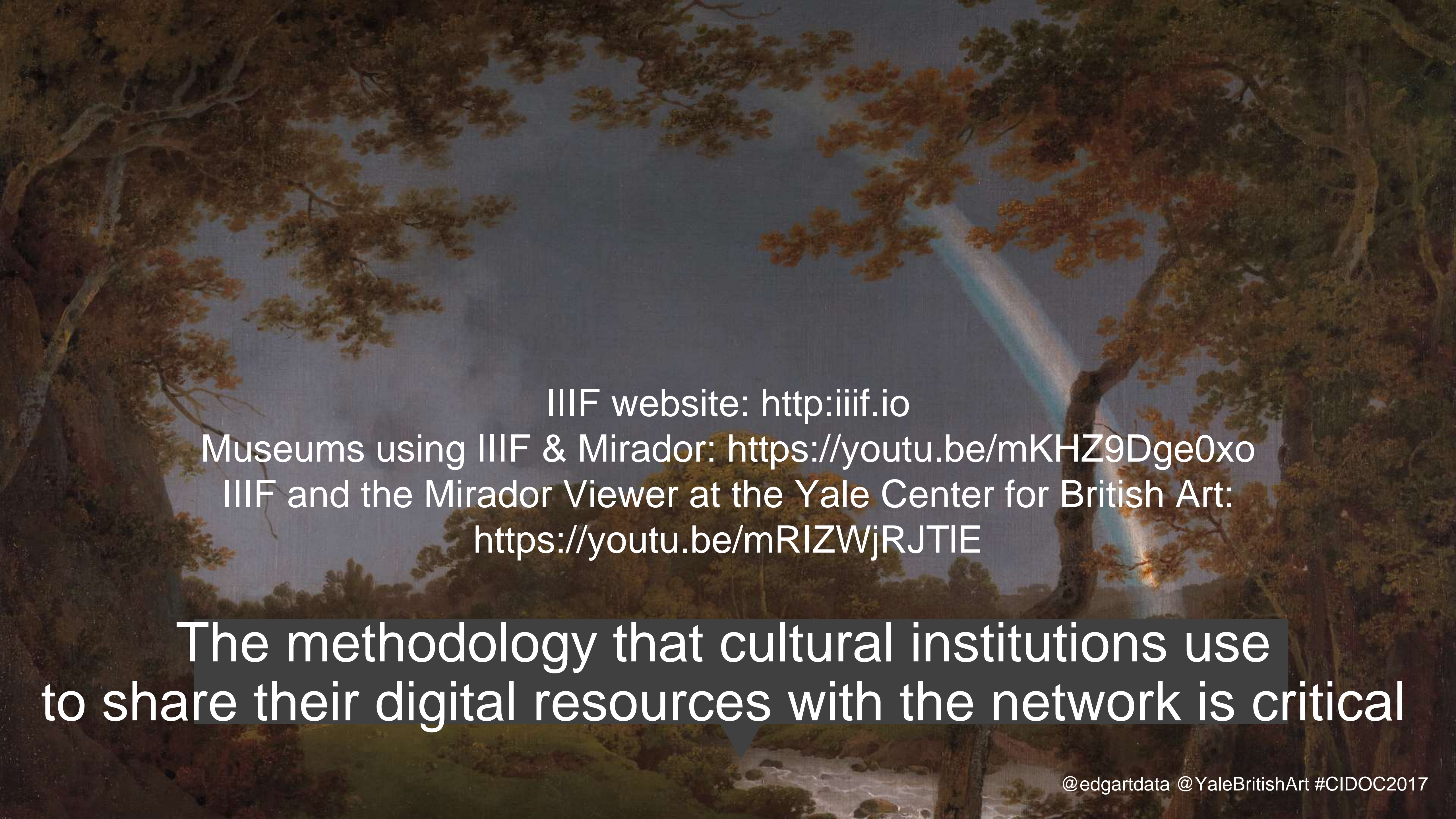
## State / National Libraries

Austria  
Bavarian State  
British Library  
Denmark  
Egypt  
France  
Israel  
Moravian Library  
New Zealand  
Norway  
Poland  
Scotland  
Serbia  
Wales  
Qatar  
United States (LoC)  
Vatican

## Universities and Research Institutions

Cambridge  
Cornell  
Ghent  
Gottingen  
Harvard  
Oxford  
Princeton  
Stanford  
Edinburgh  
Toronto  
Wellcome Trust  
Yale

*And many more!*

A painting of a forest landscape. In the foreground, a river flows through a valley, surrounded by lush greenery and trees. In the background, a large, dark tree trunk is visible on the right side. A vibrant rainbow arches across the sky, its colors transitioning from red to purple. The overall scene is serene and naturalistic.

IIF website: <http://iiif.io>  
Museums using IIF & Mirador: <https://youtu.be/mKHZ9Dge0xo>  
IIF and the Mirador Viewer at the Yale Center for British Art:  
<https://youtu.be/mRIZWjRJTIE>

The methodology that cultural institutions use to share their digital resources with the network is critical